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Abstracts

(German patents listed are available in photostatic copies at 20¢ a page from U. S. Patent Office)

ORGANIC FIBERS I

Vegetable fibers I 1

Abaca. Philippine abaca situation. C. A. Boonstra. *Foreign Commerce Weekly 26,* No. 13, 3-4 (Mar. 29, 1947).

The present status of the Philippine abaca industry and its future rehabilitation are discussed. It seems doubtful that necessary conditions for maximum production will be fulfilled for several years. TTD: 12-47

Argentine native fibers. Miscellaneous fibers. Search for new fibers, Argentina. Anon. *Foreign Commerce Weekly 26,* No. 10, 29 (Mar. 8, 1947).

Efforts to find native plants in Argentina that yield a fiber adaptable to the manufacture of cordage and textile containers are being made in order to find a substitute for imported jute fibers and sacking. Preliminary research has been carried out with the plants chaguar, caraguata and ibira. TTD: 12-47

Cotton grade improvement. Improve cotton grade by removing trash. Dorothy Nickerson, USDA. *Textile World 97,* No. 8, 130-1, 196, 198, 200 (Aug. 1947).

Cotton can be raised ½–1½ grades by removing foreign matter.
LCL TTD: 12-47

Cotton seed. Hygroscopic equilibrium of cotton seed. M. L. Karon. Southern Regional Research Laboratory. *J. Am. Oil Chemists Soc. 24,* 56-8 (Feb. 1947).

Cotton seed was suspended in desiccators containing saturated solutions of various salts at 26°C. Samples were removed from time to time and the moisture determined by heating at 101°C for 16 hrs. in a forced-draft oven. At the end of 36 days, samples of seed were removed, separated into meats and hulls (which included linters), and replaced in the desiccators for 25 hrs. more. Moisture was then determined at 31 to 71% r.h., the moisture content increased linearly from 6.03% to 10.27% in cotton seed. From 71 to 93% r.h., it increased rapidly from 10.27 to 22.19%. More moisture was found in the hulls than in the meats. It is concluded that, when cottonseed is aerated, the r.h. of the air should be considered. TTD: 12-47

Egyptian cotton. Production and characteristics of world's cotton crops. II. Egypt. E. Lord. *J. Textile Inst. 38,* T167-211 (Apr. 1947).

A review of the history, cultivation, varieties, and characteristics of cotton grown in Egypt. Future development of the Egyptian crop is also discussed. TTD: 12-47

Kenaf. Kenaf—fiber-plant revival of jute. Julian C. Crane. *Econ. Botany 1,* No. 3, 334-50 (July-Sept. 1947).

The results are summarized of a research program initiated by the USDA to determine the cultural requirements of kenaf, as well as to devise mechanical methods for harvesting the plants and processing the fiber. A comprehensive review of the literature is given. This fiber may be used in the manufacture of gunny cloth of sacking material, ropes and cordages of all kinds, fishing nets, floor matting, etc. TTD: 12-47

Pita fiber. Pita fiber in Ecuador. Anon. *Foreign Commerce Weekly 29,* No. 2, 36 (Oct. 11, 1947).

This fiber, which is produced in limited quantities in Ecuador, is used in the mountain region as a thread for sewing saddles and soles on shoes, sewing buckles on leather belts, and in making novelties. Production could increase if the demand increases. TTD: 12-47

Fiber treatment. Appliance for continuous wet treatment of fibrous material, particularly hemp and flax fibers, etc. Dittrich (to Maschinenbau und Metalltuchfabrik A-G). Ger. P. 706 525 Jan. 22, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 5 pp. TTD: 12-47

WHOLE COTTON—SOURCE FOR OILS AND PULPS. N. C. State Planning Board, 513 Commercial Bldg., Raleigh, N. C.; 1947. 66 pp.

Reviewed in *Chem. Eng. News 26,* 204 (Jan. 19, 1948). TTD: 12-47

Animal fibers I 2

Animal hair. Some biological and chemical properties of animal hair. J. L. Stoves. *J. Soc. Dyers Colourists 63,* 65-77 (Mar. 1947).

Structure, pigmentation, reactions, and properties of animal hair are discussed from both the biological and chemical aspects. Growth and structure are illustrated by photomicrographs. TTD: 12-47

Keratin fibers. Structure and elasticity of the cortex of keratin fibers. E. H. Mercer & A. L. G. Rees. *Australian J. Experimental Biol. Med. Sci. 24,* 175-83 (1946).

An electron microscopic study of fragments derived from the cortex of wool fibers by enzymic and mechanical disintegration, reveals the presence of 2 main components: (1) a fibrillar, and (2) an amorphous matrix. These results confirm those previously deduced from optical methods. The sequence of events during the stretching of wool is discussed. The material used in this study was a fine non-medullated 70s Australian merino wool. Six electron micrographs are shown. TTD: 12-47

Wool. *Textile World's* wool flow chart. Anon. *Textile World 97,* No. 8, 101-10 (Aug. 1947).

A flow chart of wool processing, showing the great variety of production methods, particularly in finishing, is presented. Copies are available from McGraw-Hill Publishing Co.
LCL TTD: 12-47

Wool. Crimp-fineness relationship in Australian wool. Dependence of wool quality number on crimp and fineness in Australian wool. W. R. Lang. *J. Textile Inst. 38,* T241-70 (June, 1947).

Methods of sorting wool are governed by visual assessment of the properties of the fibers such as crimp and fineness. A reasonable correlation was found between crimp and fiber thickness. Some aspects of the significance of these results to breeders and buyers are discussed. The limitations of the assessment of quality number on single staples by wool experts is emphasized. TTD: 12-47

WOOL: FROM RAW MATERIAL TO FINISHED PRODUCT. S. Kershaw. Sir Isaac Pitman & Sons, Ltd., Parket St., Kingsway, London, W. C. 2.; edition 6; 134 pp; price 6s.

Reviewed in *Textile Recorder 64,* No. 769, 73 (Apr. 1947). TTD: 12-47

WORSTED INDUSTRY. J. Dumville & S. Kershaw. 4th edition. Sir Isaac Pitman & Sons, Ltd., London; 157 pp.; price 7s 6d.

Reviewed in *J. Textile Inst. 38,* P126-7 (Mar. 1947). TTD: 12-47

Artificial fibers I 3

Cellulose and synthetics. Cellulose and synthetic fibers. Jean Alibert. *Chimie et Industrie 58,* No. 4, 341-5 (Oct. 1947).

Natural and synthetic continuous fibers, such as nylon and rhofil, are recommended as filters both in the laboratory and in industry. Laboratory tests have been made on these fibers as filters in both liquid and gaseous media. The resistance of nylon to weight and of rhofil to concentrated acids, alkalis and oxidants make them useful in this respect. TTD: 12-47

Rayon saponification. Study of rate of saponification of cellulose acetates. F. Howlett & Elizabeth Martin. *J. Textile Inst. 38,* T212-25 (Apr. 1947).

A paper on the homogeneous and heterogeneous saponification of secondary cellulose acetate rayons. The kinetics of the saponification reaction in solution and saponification of delustered rayon are discussed. TTD: 12-47

Rayon. Wm. V. Henry (to Am. Enka Corp.). USP 2 424 490, July 22, 1947.

In the manufacture of rayon yarn, it is necessary to give the yarn several treatments such as washing, desulfurizing, bleaching, drying, etc. To accomplish this a thread-storage, thread-advancing device is used, which consists of a rotating cage-like structure upon which the yarn is wound in a helical coil. The coil is made to advance axially along the cage by helical cam members formed around the outside of each bar of the cage and rotated relative to the bar by a system of planetary gears. The gearing is enclosed in a housing at one end of the cage.
SPH TTD: 12-47

Thread-advancing reel. Geo. P. Torrence (to Industrial Rayon Corp.). USP 2 425 136, Aug. 5, 1947.

The design of this reel provides a support for the thread-supporting bar members near their center. This support consists of disks carried on hubs, one of which is substantially inside of the other. The axis about which one hub rotates is offset and also at an angle to the axis of the other hub. The interaction of the 2 sets of thread-supporting bars causes the thread to be wound on the reel in the form of a helix which is advanced parallel to the axis one pitch for every revolution of the reel. A better design gives a more uniform load to the bearings.
SPH TTD: 12-47

Rayon spinning funnel. Vernon F. French (to Skenandoa Rayon Corp.). USP 2 425 182, Aug. 5, 1947.

In the pot spinning method of spinning such yarn as viscose rayon, it has been the practice to use a glass funnel to feed the yarn to the spinning pot. Considerable trouble is encountered because of the eroding action of the acid spinning bath and because of the mechanical abrasion of the yarn. Also a deposit of material collects within the funnels. According to this patent, a funnel is made of acid-resisting material like a laminated phenolic resin. Guides are provided in the stem of the funnel to keep the yarn from contact with the walls of the funnel. A tip of erosion-resistant material is also provided. The assembly is arranged for easy disassembly and replacement of worn parts.

SPH TTD: 12-47

Regenerated proteins. Harold P. Lundgren (to U. S. Sec'y. of Agr.). USP 2 425 550, Aug. 12, 1947.

Fibers and films are made from corpuscular proteins by treating them in aqueous solution with an alkyl aryl sulfonate or an alkyl sulfate, extruding the solution so formed into a neutral salt solution, drawing the filament formed, treating the drawn filament with alcohol or acetone solution to regenerate the portein, and drawing the filament out to produce a highly oriented fiber.

TTD: 12-47

Cellulose derivatives. Jos. E. Bludworth & Canfield Hutson (to Celanese Corp. of Am.). USP 2 425 782, Aug. 19, 1947.

Cellulose derivatives, such as cellulose acetate, are dissolved in volatile solvents, such as acetone, and the solution extruded through spinnerets into a closed chamber filled with a fog or mist formed from a liquid in which the volatile liquid is soluble, but in which the cellulose derivative is insoluble. The filaments are then washed, and dried in warm air. It is claimed that the product has a greater tenacity than filaments produced by wet spinning processes, and also have excellent elasticity. The filaments may be formed at the rate of 300 meters/min. or more. TTD: 12-47

Staple fiber production. Isaac N. McCart & Cecil Rhodes (to Cecil Rhodes). Can. P. 443 339, July 29, 1947.

A sliver or roving of staple fiber is produced from a bundle of continuous filaments, the cut lengths of the fibers being lapped together to form the required thickness of sliver or roving. TTD: 12-47

Rayon spinning. Archibald S. Hunter (to Can. Industries, Ltd.). Can. P. 443 421, Aug. 5, 1947.

See USP 2 391 973, Jan. 1, 1946 (TTD: *3*, 165).

TTD: 12-47

Artificial wool. Georges Heberlein (to Heberlein Patent Corp.). Can. P. 443 652, Aug. 12, 1947.

See USP 2 356 518, Aug. 22, 1944 (TTD: *1*, No. 3, 3).

TTD: 12-47

Viscose rayon-rubber bond. Donald Entwistle (to Courtaulds, Ltd.). Can. P. 443 732, Aug. 19, 1947.

Viscose rayon filaments containing 2 wt.% of a casein (based on the dry weight in the cellulose) may be bonded to rubber more readily in a vulcanizing process.

TTD: 12-47

Cellulose solutions. Process for continuous treatment of artificial products produced from cellulose solutions. Eisenhut (to I. G. Farbenindustrie A-G). Ger. P. 707 473, June 23, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947): 2 pp.

TTD: 12-47

Spinneret. Spinneret. Eilfeld & Dierbach (to Friedrich Eilfeld). Ger. P. 707 775, July 3, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947).

An alloy of tantalum and gold, with the possible addition of other metals of the platinum group. TTD: 12-47

Alkali cellulose. Process and appliance for the preparation of ripened alkali cellulose. Fritz Kienzle (to Maschinenfabrik Friedrich Haas K-G.). Ger. P. 714 729, Oct. 31, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 5 pp. TTD: 12-47

Synthetic fibers I 4

Nylon. Nylon goes to the head. Anon. *Foreign Commerce Weekly 26,* No. 6, 20 (Feb. 8, 1947).

Wigs made from nylon filaments 0.005" in diameter and having a wide range of pastel colors were displayed at the "Britain Can Make It" exhibition. The nylon monofil has a dual advantage over natural hair in that it comes in the colorless state ready for tinting and it may be cut in longer strands than hair. TTD: 12-47

Nylon uses. Nylon and sports. Anon. *DuPont Mag. 41,* No. 4, 8-9 (Aug.-Sept., 1947); *Chemurgic Digest 6,* 337-9 (Nov. 30, 1947).

Nylon's uses have been extended to cover laundry nets, bags, and ironing cloths, ropes, outdoor furniture, webbing, hose, cords, filter cloth, citrus tree tents, and others.

LCL TTD: 12-47

Acrylonitrile. Gaetano F. D'Alelio (to Pro-Phy-Lac-Tic Brush Co.). USP 2 425 086, Aug. 5, 1947.

A copolymer formed from a mixture of acrylonitrile and

butadiene-1,3 is mixed with liquids such as nitrohydrocarbons, to produce gels which can be cold-drawn. The product may be rendered vulcanizable by adding vulcanizing agents during the formation of the gel. Fibers produced by this process have a high tensile strength and may be used for making filter cloth, protective coatings, awnings, raincoats, shower curtains, aprons, hospital bed sheets, containers for hydrocarbons, and other purposes. TTD: 12-47

Treating nylon with formaldehyde. David McCreath (to Imperial Chemical Industries, Ltd.). USP 2 425 334, Aug. 12, 1947.

Filaments, bristles, and yarns of synthetic linear polyamides, such as polyhexamethylene adipamide, which have not been cold-drawn, are impregnated with an aqueous solution having a pH not greater than 3, containing at least 20% of formaldehyde and a catalyst consisting of an acid having an ionization constant of at least 1×10^{-2} and the water-solube NH_4–, amine, and metallic salts of such acid. They are then rinsed free of the solution and baked at 100-150°C. This treatment modifies the product so that it no longer can be cold-drawn by more than approximately 75% of its original length. The yarns treated in this way have an increased heat stability, a higher softening point, increased receptivity to dyes and resistance to fatigue, and are less soluble in the organic liquids which dissolve the untreated polyamides. TTD: 12-47

Nylon bristles. Wm. R. McClellan (to Can. Industries, Ltd.). Can. P. 442 585, July 1, 1947.

See USP 2 412 054, Dec. 3, 1946 (TTD: *4*, 40). TTD: 12-47

Fiber-forming polymer. Robt. E. Christ (to Can. Industries, Ltd.). Can. P. 443 412, Aug. 5, 1947.

A fiber-forming polymer is obtained by heating at polymerizing temperatures (but below 180°C) for at least 2 hrs., initially, a mixture comprising monoethanolamine and sebacic acid in which the carboxyl groups are present in amounts substantially equimolecularly equivalent to the sum of the amino and alcoholic groups. TTD: 12-47

Stabilized nylon. Guy B. Taylor (to Can. Industries, Ltd.). Can. P. 443 414, Aug. 5, 1947.

See USP 2 374 145, Apr. 17, 1945 (TTD: *2*, 168). TTD: 12-47

Light fast nylon. Donald D. Coffman & Halsey B. Stevenson (to Can. Industries, Ltd.). Can. P. 443 420, Aug. 5, 1947.

See USP 2 388 676, Nov. 13, 1945 (TTD: *3*, 7). TTD: 12-47

Polyamide fibers. Elmore L. Martin (to Can. Industries, Ltd.). Can. P. 443 423, Aug. 5, 1947.

See USP 2 359 867, Oct. 10, 1944 (TTD: *1*, No. 5, p. 6). TTD: 12-47

Polyamide fibers. Theodore L. Cairns (to Can. Industries, Ltd.). Can. P. 443 424, Aug. 5, 1947.

Polyamide filaments are extruded from a spinning solution, comprising essentially formaldehyde and a homogeneous solution of polyhexamethylene adipamide (at least 8%) in formic acid, into a coagulating bath, the filaments being then heated until infusible and essentially insoluble in organic liquid. TTD: 12-47

Vinyl resin fibers. Albert F. Smith (to Can. Industries, Ltd.). Can. P. 443 426, Aug. 5, 1947.

See USP 2 403 464, July 9, 1946 (TTD: *3*, 399). TTD: 12-47

Nylon. Elmore L. Martin (to Can. Industries, Ltd.). Can. P. 443 427, Aug. 5, 1947.

See USP 2 389 628, Nov. 27, 1945 (TTD: 3, 7). TTD: 12-47

Acrylonitrile. Theron G. Finzel (to Can. Industries, Ltd.). Can. P. 443 432, Aug. 5, 1947.

See USP 2 404 728, July 23, 1946 (TTD: *3*, 540). TTD: 12-47

Nylon type polymers. Arthur W. Larchar (to Can. Industries, Ltd.). Can. P. 443 433, Aug. 5, 1947.

See USP 2 412 993, Dec. 24, 1946 (TTD: *4*, 73). TTD: 12-47

Vinyl resin fibers. Kenneth L. Berry & Julian W. Hill (to Can. Industries, Ltd.). Can. P. 443 435, Aug. 5, 1947.

See USP 2 405 008, July 30, 1946 (TTD: *3*, 399). TTD: 12-47

Fiber applications I 5

Filter. John Ferrante (to Kenlea Mfg. Co.). USP 2 425 235-6, Aug. 5, 1947.

A screen for removing suspended particles from air is made of wire mesh to which short fibers are secured by means of an adhesive. The screen will maintain its shape much longer than cloth screens, and its intended for use in windows. It may also be used as a filter, especially an air filter. TTD: 12-47

Fur. Process for obtaining a fur from textile fibers. Julius G. J. Elster. Ger. P. 728 067, Nov. 19, 1942. *Bibl. Sci. Ind. Reports 4*, 253 (Jan. 17, 1947); 4 pp. TTD: 12-47

Fiber processing I 6

Washing fibers. Process for washing plant fibers. Sigismund Fuchs & Karl Pauser (to I. G. Farbenindustrie A-G). Ger. P. 725 695, Sept. 29, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 2 pp. TTD: 12-47

INORGANIC FIBERS II

Glass. New developments revolutionize glass industry. Anon. *J. Sci. Ind. Research (India) 6,* 219-20 (June, 1947).

A brief review of the glass industry in which textile uses are mentioned. TTD: 12-47

Glass fiber. Manufacture of Fiberglass. Anon. *Engineering 160,* 371-4 (Nov. 9, 1945).

The properties and uses of Fiberglass and some of the processes used in its manufacture by Fiberglass, Ltd. are described. The manner in which the Fiberglass filaments are assembled depends upon the use to which the material is to be applied. There is "bat wool," consisting of relatively short filaments felted together in mattress-like form. Continuous Fiberglass, consisting of uninterrupted filaments twisted together into threads of the desired diameter, and of any length, can be woven into flexible cloth. A Fiberglass of coarser and looser texture than the continuous filament is produced by twisting filaments ranging between 6 and 15 inches in length into a yarn, from which sheets and ropes are made. The composition of the glass is variable; it can be modified to meet particular requirements, such as high electrical insulation or resistance to certain chemicals. When subjected to vibration, the material does not break down; neither is there any record of the fibers' becoming amorphous and turning to powder through age or chemical action. TTD: 12-47

Glass fiber mat. Dale Kleist (to Fiberglas Canada, Ltd.). Can. P. 443 064, July 22, 1947.

See USP 2 373 077, Apr. 3, 1945 (TTD: *2,* 170). TTD: 12-47

Asbestos laminate. Earl L. Schulman (to Can. Westinghouse Co., Ltd.). Can. P. 443 496, Aug. 5, 1947.

An electrical insulating material is composed of laminated layers of long-fiber asbestos fabric and short-fiber asbestos paper bonded together with an impregnating resin. This product has a higher breakdown voltage in a direction perpendicular to the plane of the laminations than a similar product without the asbestos paper. TTD: 12-47

FIBER TO YARN III

Fiber preparation III 1

Carding wool. Comparison of Continental and English systems of woolen yarn manufacture. G. Marshall. *J. Textile Inst. 38,* P120-2 (Mar. 1947).

A lecture on Continental and English systems of woolen yarn manufacture, dealing particularly with carding machinery. In general, the Continental-type machine gives higher production than the English. TTD: 12-47

Drafting force. Instrument for measurement of forces operating between fibers during drafting. J. G. Martindale, Brit. Cotton Industry Research Assn. *J. Textile Inst. 38,* T151-66 (Mar. 1947).

Apparatus for measuring drafting force between fibers consists of a small draw frame, of which the front rollers are held in a spring-mounted cradle. The deflections of the cradle indicate the required force to effect the drafting of sliver or roving. TTD: 12-47

Tape condenser. Improved tape condenser for carding machines. Anon. *Textile Recorder 64,* No. 768, 37-8 (Mar. 1947).

A new drive is described, for which the following advantages are claimed; (1) the change wheel is easily accessible and the speed at which the condenser is to run can be changed quickly, (2) the operation can be changed from one material to another with less trouble than on existing equipment, (3) a tape roller traversing device is fitted outside of the frame of the machine, where it is readily accessible, and, (4) where continuous tapes are used, the condenser is equipped with a spring loaded compensating device to ensure that the tension on the leathers is constant, regardless of the temperature and humidity. The manufacturers are R. B. Brooks and Sons (Engrs.) Ltd., Grove Works, Lockwood, Huddersfield, and Redshaw and Co., Ltd. Lomax St., Rockdale (England). TTD: 12-47

Wool cards. Sorting effect of woolen card. P. P. Townend, Univ. of Leeds. *Textile Recorder 64,* No. 769, 36-7 (Apr. 1947).

Results of experiments on woolen cards show that the carding engine will act as a sorting machine for woolen blends. Thus fibers of different lengths and diameters can be sorted to give uniformly mixed blends. TTD: 12-47

Roving spool. Alphonse Rancourt. USP 2 425 827, Aug. 19, 1947.

A roving spool consists of a stem of metal tubing provided with end plates of metal, plastic or the like. The end plates are held on by means of a tension spring in-

side the metal tube. Novel locking means are provided to facilitate assembly. In the process of filling the spool, the end plates can yield to the pressure of the yarn a small amount.
SPH TTD: 12-47

Card drive. Andor Varga. Can. P. 443 622, Aug. 12, 1947.

A variable-speed drive for a roller in a carding engine permits the relative surface speeds of collaborating rollers (*i.e.*, swift, worker, stripper, etc.) to be varied infinitely. TTD: 12-47

Card feed. Irvin Marsden & Lewis Collins (to Platt Bros. & Co., Ltd.). Can. P. 443 553, Aug. 5, 1947.

A stop motion for the rollers of a card is actuated by a predetermined excess resistance to the rotation of the rollers during feeding of the sliver, such as may be caused by the building-up of the sliver on the rollers. TTD: 12-47

Card. Hubert Duesberg. Can. P. 443 694-5, Aug. 19, 1947.

On a set of cards comprising a doffer and at least 2 rollers, at least one of the rollers is heated (to about 35-40°C) so that a textile web in passing between them will not adhere to the rollers. TTD: 12-47

Fiber preparation. Process for making stable, convertible forms from loose textile fiber materials. Waibel (to I. G. Farbenindustrie A-G). Ger. P. 709 939, Oct. 14, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 2 pp. TTD: 12-47

Blends III 2

Nylon blends. Processing nylon staple requires machinery fitness. Richard S. Crowsley. *Textile World 97,* No. 8, 114-15, 212, 214, 216 (Aug. 1947).

Atmospheric conditions and machine settings and speeds are discussed in detail for the best use of nylon staple in blends. Changes in operating conditions to effectively use nylon staple require careful consideration.
LCL TTD: 12-47

Worsted blends. Development of new types of worsted yarns and fabrics from crossbred wools. W. Hardacre. *J. Textile Inst. 38,* P167-72 (May, 1947).

By blending crossbred wool and rayon staple, a great variety of cloth can be made; tie cloths, tropical suitings, and dress fabrics, examples of this blending, are discussed; and results of tests on the two-fold yarns in these fabrics are given. TTD: 12-47

Blended yarn. Austin H. Oppenheim (to Unique Fibres, Inc.). Can. P. 442 663, July 1, 1947.

See USP 2 416 208, Feb. 18, 1947 (TTD: *4,* 159).
TTD: 12-47

Spinning III 3

Ring spinning. Relation of diameter of bobbin to diameter of ring. Anon. *Platt's Bull. 5,* 138-40 (Mar.-Apr. 1947).

The ratio between the diameter of the bobbin and inside diameter of the ring should be such that the angle of pull on the traveler will not be too small. The smaller the empty bobbin relative to the ring, the greater is the chance from broken ends. An explanation of the principles of this relationship is given. TTD: 12-47

Roll pickers. Pneumatic pickers speed spinning-roll cleaning. E. G. Hubbard, Jr., Columbus Mfg. Co. *Textile World 96,* No. 11, 120-1 (Nov. 1946).

Pneumatic roll pickers have many advantages over the old method of cleaning spinning rolls by hand. More rolls may be cleaned in less time and more efficiently, less oil is wasted, and less injuries occur. An illustrated description of the electric roll cleaners is given. TTD: 12-47

Spinning. Experimental spinning in Siam by prisoners of war 1945. G. H. Jolly. *J. Textile Inst. 38,* P223-4 (July, 1947).

A brief review of spinning and weaving by prisoners of war in Siam. TTD: 12-47

Spinning. New drafting system spins yarn from card sliver. P. M. Thomas, Textile World. *Textile World 97,* No. 8, 126-7 (Aug. 1947).

The Avon drafting system (at Avondale Mills) has proven successful in spinning yarn from card sliver. Drafts up to 300 have been used, and yarns up to 60s have been spun.
LCL TTD: 12-47

Spinning frame. M1 ring spinning frame. Anon. *Platt's Bull. 5,* 130-8 (Mar.-Apr. 1947).

Features of the M1 ring spinning frame are described and illustrated. Improved output and quality and lower operational costs are 2 of the main advantages of this new frame. TTD: 12-47

Spinning jute. Modern jute spinning. Flaxman. *Textile Recorder 64,* No. 769, 40-1, 44 (Apr. 1947).

Modern overhung flyer frames, larger spinning packages, automatic doffing, automatic stop motion, and developments in slip draft control mechanisms have in-

creased the output in jute spinning 300-400%. A review of these developments is given with some details of draft calculations. TTD: 12-47

Spinning rayon. Spinning imparts linen characteristic to spun staple. S. A. G. Caldwell. *Textile World 96,* No. 11, 143, 204, 206, 208, 210 (Nov. 1946).

Production of linen-like rayon yarn from long staple rayon is reviewed. The overhung flyer frame and the standard flax wet-spinning frame are suitable for producing this type of yarn. Details of operation, fiber control, twist, etc., for these frames are discussed. TTD: 12-47

Spinning rayon staple. Current developments in rayon staple spinning. H. Ashton. *J. Textile Inst. 38,* P201-2 (June, 1947).

A lecture, reviewing developments in the spinning of rayon staple, is summarized. TTD: 12-47

Worsted spinning. Worsted spinning industry in British and U. S. zones of Germany. F. Bates & others. PB 49 277, *Bibl. Sci. Ind. Reports 4,* 22 (Jan. 3, 1947). BIOS Final Report 627, Item 22, 31, Apr.-May, 1946. 76 pp.; price $2.00 (Microfilm); $6.00 (Photostat).

The report consist of Part I, a general report on the industry, and Part II, individual reports of a number of firms. There was a shortage of raw materials at all the mills visited, and mixtures of rayon staple and wool were in general use. Cuprama was generally considered the best German-produced rayon for blending with wool. Flax was also added to the blend sometimes. The addition of the flax, substitutes, and some of the rayon staples to wool lowered production. TTD: 12-47

Worsted spinning. Worsted spinning on French system. Geo. F. Bliss, Atkinson, Haserick & Co., & Chas. Goetz, Société Alsacienne. *Fibre & Fabric 100,* No. 3251, 33-4 (May 24, 1947).

The French set for spinning worsteds is described with details on attaining quality of yarn and evenness as to count. Cost of operation is considered for each division of the process. No special short tops or combing is required for successful operation. TTD: 12-47

Weighting drafting rollers. Jos. Noguera (to Casablancas High Draft Co., Ltd.). USP 2 425 264, Aug. 5, 1947.

This device consists of the usual saddles acting in unison upon the top rolls of the machine. The multiplying lever is a compound device one part of which is connected with the hook on the saddle; the other part supports the weight. The 2 parts are each acted upon by a common spring in such a way that lifting the multiplying lever automatically releases the hook. The operator can again engage the hook by lifting the multiplying lever and applying pressure with his thumb to the upper part of the lever element.
SPH TTD: 12-47

Cleaning spinning frames. Meinard F. Thoma. USP 2 425 576, Aug. 12, 1947.

A duct is provided under the creel for the full length of the machine. Branches are provided on each side for each section of the frame. A suction head fits close up under the lower front roll. This suction head is provided with a continuous slot. The slot is forward under the rolls and farther back under the roll necks. The object is not only to pick up broken ends and the like under the rolls but also to pick up lint and fly in the space between rolls.
SPH TTD: 12-47

Spinning and twisting. Meinard F. Thoma. USP 2 425 577, Aug. 12, 1947.

An improved construction provided for machines which are employed for the performance of spinning, twisting and similar operations, substantially eliminates the accumulation of fly, lint and other waste material. This is accomplished by shielding the individual parts of the machine in such a manner as to reduce to a minimum the number of exposed parts. The smooth surfaces allow easy removal of such waste as does collect. Advantage is taken of the normal tendency of cool air to be drawn from underneath the machine and to flow upwardly as it is heated by passage over the operating parts of the machine.
SPH TTD: 12-47

Weighting spinning rolls. Wm. A. Hunter (½ to Howard & Bullough, Ltd.). Can. P. 443 883, Aug. 26, 1947.

A roller-weighting device for drawing and spinning frames and the like comprises essentially a saddle that rests upon a single roller to which tension may be applied through a dependent slidable link resiliently connected to a fixed part of the frame. TTD: 12-47

Bobbin. Bobbin plug. Ernst Papst. Ger. P. 726 626, Oct. 16, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 3 pp. TTD: 12-47

Winding III 4

Automatic quiller. Automatic quiller achieves high production. Anon. *Textile World 97,* No. 7, 118-19 (July, 1947).

The operation of the Hacoba winding machine (Mus-

champ Taylor, Ltd.), provided with automatic doffing and loading, is briefly described. It is adaptable for winding all kinds of yarns (cotton, wool, linen, rayon, etc.) and for a wide range of counts. TTD: 12-47

Winding hosiery yarns. Hosiery yarn production. E. Brierley, Thos. Holt, Ltd. *J. Textile Inst. 38,* P123-4 (Mar. 1947).

The importance of correct winding in hosiery yarn production is discussed. Waxing, oiling, conditioning, and the preparation processes for hosiery yarns are also reviewed. TTD: 12-47

Winding yarn. John P. Mackie (to Jas. Mackie & Sons, Ltd.). Can. P. 443 085, July 22, 1947.

See USP 2 417 258, Mar. 11, 1947 (TTD: *4,* 163). TTD: 12-47

Winder. John P. Mackie (to Jas. Mackie & Sons, Ltd.). Can P. 443 086, July 22, 1947.

A device for cross winding yarn is particularly adapted for tapering rolls. (*Cf.* TTD: *4,* 163—USP 2 417 258, Mar. 11, 1947, and also Can. P. 443 085, July 22, 1947). TTD: 12-47

Winding machine. Walter Siegenthaler (to Maschinenfabrik Schärer). Can P. 443 662, Aug. 12, 1947.

See USP 2 370 924, Mar. 6, 1945 (TTD: *2,* 132). TTD: 12-47

Winding. Drive control of winders for textile fabrics discharged from the drying room, especially in sizing machines. Stein & Schobbe (to Allgemeine Elektricitäts Ges.). Ger. P. 707 936, July 8, 1941. *Bibl. Sci. Ind. Reports 4,* 252 (Jan. 17, 1947). TTD: 12-47

Yarn processing III 5

Treating yarn with fluid. Thos. Jackson & Frank B. Hill (to Brit. Celanese, Ltd.). USP 2 425 037, Aug. 5, 1947.

Yarns are subjected to a fluid treatment in a closed chamber. A series of holes are provided in the entrance end of the cylinder through which the thread passes. Surrounding one of these holes is a conical shaped annular orifice through which air or steam is introduced to the chamber. This has an injector effect which creates a flow of air through the holes. This is a great aid in threading up the device when starting up or when an end breaks. By correct relation of the hole size, thread size, steam pressure, and water pressure, the tension on the yarn can be controlled. The principal application is in stretching yarns of an organic derivative of cellulose in wet steam.
SPH TTD: 12-47

Yarn treatment. Helmut Voelker & Wm. H. Wolfe (to B. F. Goodrich Co.). USP 2 425 214, Aug. 5, 1947.

A trough provided with spray heads and a shield is mounted under the warp beam. The trough is provided with rollers which contact the warp and maintain a constant distance from the spray heads to the beam. The trough is supported on straps which run over pulleys and are attached to weights which are heavier than the trough assembly. Surplus fluid is recovered through the trough and a drain. Principal application is in the liquid treatment of yarn for tire cords and the like.
SPH TTD: 12-47

Cotton cord treatment. Howard M. Buckwalter (to Dominion Rubber Co., Ltd.). Can. P. 443 054, July 22, 1947.

In order to improve the tensile strength and heat-aging properties of grey cotton cord, the cord is mechanically stretched, treated with an abietic acid derivative containing a tricyclic hydroaromatic condensed nucleus, and then dried. TTD: 12-47

Rubberized rayon cord. Edw. T. Lessig (to B. F. Goodrich Co.). Can P. 443 649, Aug. 12, 1947.

High tenacity rayon cords with a tensile strength of 15-35 lbs. are moistened with an aqueous medium containing an adhesive to improve the rayon-rubber adhesion, tensioned at 25-50° of their tensile strength, and dried while tensioned. Cords so treated may be used to reenforce rubber belts or may be paralleled and formed into a weftless fabric for use in tires.
TTD: 12-47

Yarn treatment. Appliance for wet treatment of yarn wound around perforated tubes. Zittauer Machinenfabrik A-G. Ger. P. 718 118, Mar. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 255 (Jan. 17, 1947); 5 pp. TTD: 12-47

Adhesive coating. Apparatus for coating threads with an adhesive composition. Anhaltische Studienges. Ger. P. 723 490, Aug. 5, 1942. *Bibl. Sci. Ind. Reports 4,* 252 (Jan. 17, 1947); 5 pp. TTD: 12-47

Yarn products III 6

Cordage. Cordage industry (in British, American and French zones of Germany). D. R. Frost & others. PB 49 220. *Bibl. Sci. Ind. Reports 4,* 22 (Jan. 3, 1947). BIOS Final Report 613, Item 22 and 31; Price $2.00 (Microfilm); $6.00 (Photostat).

This report states that German plants were far behind the British in the preparation and spinning of yarns

(except 4 lea sisal). The German industry is not supplied by first-class manufacturers of machinery, as in the U.K., and German spinners were not able to buy many British machines. The rope industry is small compared to that of the U.K., and almost completely out of date. Appendices contain diagrams of a system of batch application, hemp softener, teaser, machine for spinning and spooling paper yarn in one operation, and a square rope stretching machine. TTD: 12-47

Nylon cordage. Nylon ropes. Anon. *Textile Recorder 64,* No. 769, 55-6, 74 (Apr. 1947).

Properties of nylon yarn in rope are reviewed and compared with the properties of rope made from vegetable fibers as manila, hemp, etc. TTD: 12-47

Tire cord. Technical control means better tire cord. C. Mallard Bowden, Textile World. *Textile World 96,* No. 11, 122-3, 125 (Nov. 1946).

Product control in tire manufacture is discussed with illustrations of applications. TTD: 12-47

Rope. Hugh A. Elkin (to Gourock Ropework Co., Ltd.). Can. P. 443 650, Aug. 12, 1947.

A number of lots of hard fibers, at least one of which is colored, are drafted and mixed in successive stages and then twisted to form a vari-colored yarn. TTD: 12-47

YARN TO FABRIC IV

Underwear. Process for manufacture of cloth blanks for undergarments from cellulose-containing fibrous materials. Henri Demeuse & Co. Ger. P. 723 489, Aug. 5, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 2 pp. TTD: 12-47

FABRICS. Grace Denny. J. B. Lippincott Co., Philadelphia, Pa.; edition 6; 202 pp.; price $2.75.

Reviewed in *Textile World 97,* No. 7, 222 (July, 1947). TTD: 12-47

KAPADNI KAHANI (Story of cloth). Kantilal M. Gandhi. (Shree Sayaji Sahitya Mala No. 297) 1947; price Rs. 2-1-0; *in Gujarati.*

Reviewed in *J. Sci. Ind. Research (India) 6,* 233 (June, 1947). TTD: 12-47

Yarn preparation IV 1

Sizing machine. Hibbert sizing machine. Anon. *Platt's Bull. 5,* 121-8 (Mar.-Apr. 1947); *Textile Mfr. 73,* 318-21 (July, 1947).

The A12 model Hibbert moist air drying and sizing machine is described and illustrated. Some of the outstanding features are: all-electric driving, operational speed control; hydraulic press motion, low operational costs, etc. TTD: 12-47

Slashing. Acetate slashing often wasteful of materials. I. G. Sanford. *Textile World 96,* No. 11, 133, 244, 248, 252 (Nov. 1946).

Gelatin is the standard size used in most mills, although, lately, modified casein and polyvinyl alcohol have been used successfully. The gelatin size should not be heated above 170°F, even for a few minutes. Sulfonated tallow has been found to be the most suitable softener, and it is the only softener needed with gelatin. A good penetrant is also needed because acetate rayon is not very hygroscopic. The penetrant may be tested simply by placing a small skein of the yarn in the solution to see if it will sink. TTD: 12-47

Slashing practices. Alabama mill men explore slashing practices. Anon. *Textile World 97,* No. 7, 139, 141 (July, 1947).

Weighting squeeze rolls, use of lease strings, and storage of size are among topics discussed at this meeting. TTD: 12-47

Warping plastic yarn. Slasher solves problem in warping monofilaments. Albert Frantz. *Textile World 96,* No. 11, 252, 254 (Nov. 1946).

A brief discussion of a system to eliminate warp knots. TTD: 12-47

Slashing. Slide-coupling device of the winding-up roll for sizing machines and the like. Sandweg (to Siemens-Schuckertwerke A-G). Ger. P. 707 953, July 8, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 4 pp. TTD: 12-47

Beaming. Process and appliance for winding warp beams prepared with naphthol dyes. Müller (to Zittauer Maschinenfabrik A-G). Ger P. 708 367, July 22, 1941. *Bibl. Sci. Ind. Reports 4,* 255 (Jan. 17, 1947); 5 pp. TTD: 12-47

Slasher. Warp sizing machine. Krückels & Krückels (to Maschinenfabrik Zell J. Krückels K-G.). Ger. P. 709 926, Aug. 30, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 2 pp. TTD: 12-47

Slashing. Process for controlling the breaking of threads such as those run in skeins through wet treatment appliances, particularly sizing machines. Weiss (to Gebrüder Sucker, G.m. b. H.). Ger. P. 718 407, Mar. 11, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 4 pp. TTD: 12-47

Drying warps. Drier for sized textile warps. Vögler & Hertel (to Sächsische Webstuhlfabrik). Ger. P. 727 231, Oct. 16, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 4 pp. TTD: 12-47

Weaving — IV 2

Weaving. Better weaving is aim of Alabama men. Anon. *Textile World 97,* No. 7, 127, 129 (July, 1947).

The maintenance of weave-room humidity (at about 84%) so as to control the moisture in warps was one of the major topics of discussion at a meeting of Alabama mill men. Other topics discussed included shuttle fur and loom braces. TTD: 12-47

Weaving. Weaving of future. W. Barker. *J. Textile Inst. 38,* P175 (May, 1947).

A lecture on automatic and nonautomatic looms is briefly summarized. TTD: 12-47

THE INTELLIGENT WEAVER'S GUIDE TO MODERN METHODS. Anon. (Written for employees of Courtaulds, Ltd.); 19 pp.

Reviewed in *J. Textile Inst. 38,* P212 (June, 1947). TTD: 12-47

Looms — IV 2 a

Circular loom. New circular loom surprises Dundee. Anon. *Jute & Canvas Rev. 18,* No. 226, 11-12 (July, 1947).

A review of a film on a new circular loom (Saint Frères, S.A.) with some details of its operation. TTD: 12-47

Picker sticks. Many factors are involved in picker-stick economy. *Textile World 97,* No. 8, 124-5 (Aug. 1947).

Laminated wool-and-plastic picker sticks are more economical than hickory sticks at speeds up to 120 picks per min.
LCL TTD: 12-47

Shuttleless looms. Shuttleless looms. Anon. *Textile Recorder 64,* No. 768, 39-42, 66 (Mar. 1947); *Fibre & Fabric 100,* No. 3247, 6-7 (Apr. 26, 1947).

A review of the more outstanding shuttleless looms (Rapier, Baddeley, and Sulzer) and the progress in their design and construction. TTD: 12-47

Loom cloth roll. Carl P. Bergstrom & Archibald J. Herard, Jr. (to Crompton & Knowles Loom Works). USP 2 425 781, Aug. 19, 1947.

By a system of shafts and levers the spring which is used to hold the roll of cloth in contact with the driving roll on a loom is controlled. The rack and pinion formerly used is eliminated. The possibility of overwinding the spring is eliminated, as is also the danger of suddenly releasing the stored energy of the spring.
SPH TTD: 12-47

Loom. Frederick G. Cobb. Can. P. 443 352, Aug. 5, 1947.

See USP 2 373 293, Apr. 10, 1945 (TTD: 2, 190). TTD: 12-47

Control devices — IV 2 b

Automatic shuttle change. Federico Llovera. USP 2 425 103, Aug. 5, 1947.

A mechanism for changing the shuttle while the loom is in motion provides a battery of shuttles mounted on the end of the slay. When an empty shuttle is received, the battery is lowered one step and the empty shuttle is ejected. The picker stick strikes the bobbin in the second station. While this bobbin is in the box at the other end of the slay, the battery returns to normal position and the returning bobbin is received in the lower station. The remainder of the bobbins are then lowered one station.
SPH TTD: 12-47

Weft thread control. Richard G. Turner (to Crompton & Knowles Loom Works). Can. P. 442 597, July 1, 1947.

On a weft replenishing loom during bobbin transfer or discharge, a thread cutter cuts the weft ends while the fingers of the operator are protected from the cutter by means of a guard above the cutter. TTD: 12-47

Fabric construction — IV 2 c

Weave defects. Eliminating pick troubles reduces mill's mending costs. Eugene P. Schremp, Textile World. *Textile World 97,* No. 7, 123, 190, 192 (July, 1947).

Wrong draws, wrong colors, double ends, harness skips, temple cutting, and kinks are some of the many troubles the reduction of which will appreciably lower mending costs on woolen or worsted fabrics. TTD: 12-47

Weaving tapestries. Weaving French tapestries on power loom. Anon. *Textile Recorder 64,* No. 769, 48-9 (Apr. 1947).

Fabrics similar to Gobelin tapestries are produced by covering standing warps by cross-weaving covering warps and binding these covering warps with wefts on the underside only of the standard warps. These tapestries may be used for rugs, furnishing fabrics, belts, etc. TTD: 12-47

Woven fabric. Peter A. Preneta (1/3 to Louis De Marco). USP 2 424 771, July 29, 1947.

A special fabric has a ground or body weave with parallel weft-wise ridges consisting of 4 picks each. This is accomplished by throwing 2 picks of body filling threads, then shedding the alternate warp threads only while the body warps remain closed and throwing 4 successive picks of top filling thread, then again shedding both body and alternate warps and throwing another set of 2 picks of body filling thread and beating in the latter 2 picks to force the top picks to form a ridge on the face of the cloth. This is repeated to form a ridge for every 6 picks.
SPH TTD: 12-47

Woven fabrics. Edw. Glendinning & Frank Binns. USP 2 424 928, July 29, 1947.

A series of different fabrics all have folds of cloth attached to a ground-forming cloth. A description of the method of weaving is given. Several picks are taken in the fold-forming cloth while the ground-forming shed is held closed. At the required time, the ground-forming shed is opened and the cloth is beaten until the fold-forming cloth forms a fold on one side of the cloth. A wide variety of forms in which the folds are on one side, on both sides, long on one side, short on the other, etc., is described.
SPH TTD: 12-47

Noncurling fabric. Ross C. Whitman (to Kendall Co.). Can. P. 443 850, Aug. 26, 1947.

See USP 2 400 182, May 14, 1946 (TTD: *3*, 328).
TTD: 12-47

Noncurling fabric. Ross C. Whitman (to Kendall Co.). Can. P. 443 851, Aug. 26, 1947.

See USP 2 400 276, May 14, 1946 (TTD: *3*, 329).
TTD: 12-47

Noncurling fabric. Ross C. Whitman (to Kendall Co.). Can. P. 443 852, Aug. 26, 1947.

See USP 2 409 089, Oct. 8, 1946 (TTD: *3*, 549).
TTD: 12-47

Knitting — IV 3

Circular knitting. Circular knitting requires accurate yarn feeding. H. Wignall. *Textile World 97*, No. 7, 133, 135 (July, 1947).

Importance of yarn for good circular knitting is emphasized. Tension should be determined by the type of yarn used. A yarn-drag test, where the drag of yarn is measured on a light spring-loaded spool around which the yarn is wrapped, will indicate the requisite amount lubrication, another important factor in knitting.
TTD: 12-47

Knitting machines — IV 3 a

Hosiery machines. Full-fashioned stocking machines. J. B. Lancashire. *Textile Recorder 64*, No. 769, 46-7 (Apr. 1947).

A brief survey in which it is noted that obsolescence is due to the trend toward finer gage hosiery, and fine-gage machines are scarce. TTD: 12-47

Knitting machines. Flat knitting machinery. J. B. Lancashire. *Textile Recorder 64*, No. 768, 43-4 (Mar. 1947).

Improvements developed by the Dubied Knitting Machinery Co., Switzerland, and by the Stoll firm in Germany are discussed. (*See* FIAT Final Report 138, Feb. 19, 1946.) TTD: 12-47

Knitting yarn. Louis Scharf & Albert Lamparelli. USP 2 424 774, July 29, 1947.

A double tie adapter is a simple device for mounting one cone of yarn on top of another cone so that the trailing end of the top cone can be tied to the leading end of the bottom cone, in order to prevent stopping the machine using the yarn, when the first cone is exhausted.
SPH TTD: 12-47

Knitting machine. Henry H. Holmes & Albert H. Widdowson (to Wildt & Co., Ltd.). USP 2 425 243, Aug. 5, 1947.

On a circular knitting machine are provided 2 or more movable feeders some of which are employed to feed ground and plating yarns conjointly to the needles, and a latch controlling element adapted to delay closing, or prevent sudden closing of the needles to knock over. The object of the device is to achieve good plating.
SPH TTD: 12-47

Warp knitting machines. Fritz Lambach. USP 2 425 744, Aug. 19, 1947.

A bracket holding a pad of felt or the like against the surface of the cam roller is provided. The pad is held in contact with the roller by a spring. When the pad is saturated with oil it provides lubrication for the cam and roller surface.
SPH TTD: 12-47

Knitting machine needle. Paul W. Bristow (to Scott & Williams, Inc.). Can. P. 443 296, July 29, 1947.

See USP 2 412 248, Dec. 10, 1946 (TTD: *4*, 53).
TTD: 12-47

Knitting machine. Henry H. Holmes & Albert H. Widdowson (to Wildt & Co., Ltd.). Can. P. 443 880, Aug. 26, 1947.

See USP 2 385 081, Sept. 18, 1945 (TTD: *2*, 555).
TTD: 12-47

Control devices — IV 3 b

Knitting yarn feed. Ezekiel Killian (1/4 to E. Louis, Saml. R., & Myer E. Kotzen & Howard C. Mohn Hosiery Co.). Can. P. 443 882, Aug. 26, 1947.

See USP 2 406 775, Sept. 3, 1946 (TTD: *3*, 454; also *4*, 54). TTD: 12-47

Knitting yarn feed. Ezekiel Killian (1/4 to E. Louis, Saml. R., & Myer E. Kotzen & Howard C. Mohn Hosiery, Inc.). USP 2 426 357 & Can. P. 443 881, Aug. 26, 1947.

On knitting machines (such as the Banner type) for producing seamless hosiery, terry loops or plating may be introduced during circular or reciprocal knitting through an improved yarn feed. TTD: 12-47

Yarn feed. Oscar Fregeolle (to Hemphill Co.). Can. P. 443 740, Aug. 19, 1947.

See USP 2 399 729, May 7, 1946 (TTD: *3*, 330). TTD: 12-47

Fabric construction — IV 3 c

Knitting stitch. Plain and reverse plating are versatile knitting stitch. Harry Wignall. *Textile World 96*, No. 11, 145, 147, 200 (Nov. 1946).

The construction of plain and reverse plated fabrics and the structure of the plating are described and illustrated. The 4 methods of producing reverse plating are discussed. TTD: 12-47

Nylon hosiery. Factors in production of nylon hose. A. R. Munden. *J. Textile Inst. 38*, P156-60 (Apr. 1947).

Steps in the production of nylon hosiery from the time the yarn is spun to the final process of finishing are discussed. TTD: 12-47

Tuck stitch knitting. Have you thought of tuck stitch lately? Harry Wignall, *Textile World 97*, No. 8, 137 (Aug. 1947).

The tuck stitch is a simple knitting operation that lends itself to almost any type of effect: patterns in color, patterns in stitch, raised effects, open-work and shog effects, etc. It can be used on latch- and spring-needle machines. TTD: 12-47

Knitting hosiery. Richard E. Schletter (to Textile Machine Works). USP 2 424 957, July 29, 1947.

Full fashioned stockings are usually "two unit" stockings, that is they are made from flat blanks knitted on 2 machines, a legger, and a footer. In this design of stocking blanks they can be knitted on a single machine which provides for the necessary additional automatic racking mechanism for manipulating the end stop spindles and comb operating spindles of the full fashioned knitting machine to widen the fabric during knitting. This widening is necessary in order to form the heel pocket of the stocking.
SPH TTD: 12-47

Knit fabric. Henry H. Holmes & Albert H. Widdowson (to Wildt & Co., Ltd.). Can. P. 443 691, Aug. 19, 1947.

See USP 2 375 474, May 8, 1945 (TTD: *2*, 256). TTD: 12-47

Terry fabric. Oscar Fregeolle (to Hemphill, Co.). Can. P. 443 741, Aug. 19, 1947.

See USP 2 400 637, May 21, 1946 (TTD: *3*, 332). TTD: 12-47

Knit goods. Procedure and appliance for automatic turning sack-like or tubular textile products. Ernst Melzer & Herbert Siegmund. Ger. P. 705 523, Apr. 30, 1941. *Bibl. Sci. Ind. Reports 4*, 254 (Jan. 17, 1947); 6 pp. TTD: 12-47

Hosiery. Procedure and appliance for automatic turning of sack-like or hose-like textile products. Ernst Melzer & Herbert Siegmund. Ger P. 712 096, Oct. 13, 1941. *Bibl. Sci. Ind. Reports 4*, 254 (Jan. 17, 1947); 3 pp. TTD: 12-47

Special fabrics — IV 4

Carpets. Pictures show steps followed in carpet manufacture. Anon. *Textile World 96*, No. 11, 112-15 (Nov. 1946).

A pictorial description of carpet manufacture in England. Starting with the completed design, the subsequent processes of dyeing, spooling, warp preparation, etc., are followed. TTD: 12-47

Carpets. History and tradition of European carpets. C. S. Newton. *J. Textile Inst. 38*, P107-17 (Mar. 1947).

A review of the history of carpets in England, France, Spain, and other European countries. TTD: 12-47

Hair net. Robt. Shaw (to Robt. Shaw & Co., Ltd.). Can. P. 442 788, July 8, 1947.

A machine-made hair net comprises a length of tubular, twist-lace fabric, whose ends are closed by pillaring, having a longitudinal opening in the side.
TTD: 12-47

Fancy fabrics. Process for preparing openwork embroidery upon cellulose fiber textiles or their blends with cellulose ester or ether fibers. Kerth & Link

(to I. G. Farbenindustrie A-G). Ger. P. 724 437, Aug. 26, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947) ; 2 pp. TTD: 12-47

Fabric processing IV 5

Steaming. Conveyor steamer speeds preparation of cotton goods. C. Norris Rabold, Textile World. *Textile World 97,* No. 7, 104, 186, 188, 190 (July, 1947).

A double-steamer system (having 2 open-width units, with saturators and washers on the lower level) gives improved results with the same use of floor space. TTD: 12-47

Calender. Carl F. Schnuck (to Farrel-Birmingham Co., Inc.). USP 2 424 856, July 29, 1947.

A device controls the adjustment between cooperating rolls of a calender, where the thickness of the material produced must be held to close tolerance. A near adjustment by means of pressure screws, which is the usual practice, is used. The full adjustment consists of heating the pressure screw by means of a coil energized when a feeler roll indicates that the stock is too thick. The heated screw expands and therefore closes the air-gap slightly between the cooperating rolls.
SPH TTD: 12-47

Fabric strengthening. Strengthening woven goods made of silk or rayon. Walter (to Röhm & Haas G.m.b.H.). Ger. P. 704 758, Apr. 5, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947) ; 2 pp. TTD: 12-47

Velvet. Appliance for zigzag hanging of delicate fabrics such as velvet, etc., in order to avoid pressure. Hasselt (to Johs Girmes & Co.). Ger. P. 708 565, July 24, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947) ; 4 pp. TTD: 12-47

Cloth winding reel. Star reel for winding up wide, guided strips of cloth, especially printed materials. Heinrich Zimmer. Ger. P. 712 041, Oct. 10, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947) ; 5 pp. TTD: 12-47

Non-curling fabric. Process for obtaining nonwrinkling piece goods from vegetable fibers. Fritz Drechsel. Ger. P. 715 645, Jan. 5, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947) ; 2 pp.

The materials, after being bucked and wound, are subjected to pressure by a roller for some time. After the materials are unwound, they are left to themselves without tension for awhile, then neutralized and rinsed. TTD: 12-47

Fabric processing. Process for the continuous pressing out of fiber webs, especially fabrics. Ulrich Gminder G.m.b.H. Ger. P. 715 814, Jan. 7, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947) ; 2 pp. TTD: 12-47

Steaming. Apparatus for steaming, particularly of printed textiles. Maschinenfabriken Tilim. Gerber Söhne & Gebr. Wansleben. Ger. P. 715 842, Jan. 8, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947) ; 4 pp. TTD: 12-47

Fabric applications IV 6

Coated fabrics. Please be seated. Anon. *Du Pont Mag. 41,* No. 4, 10-11 (Aug., Sept. 1947).

A brief review of 3 coated upholstery fabrics (Fabrikoid, Fabrilite and Cavalon) and their uses. TTD: 12-47

Rayon staple fabrics. Some random thoughts on the use of rayon staple in woven fabrics. R. S. Greenwood, Courtaulds, Ltd. *Papers Am. Assn. Textile Technologists 2,* 89-96 (Mar.-May, 1947).

The opinion is expressed that carefully designed fabrics made from yarns spun from long-staple artificial fibers on systems such as the silk, the flax tow, the worsted, or the jute systems have desirable characteristics which can not be obtained on the cotton system. Staple fiber fabrics from yarns spun on the condenser system have properties which can not be produced by parallel fiber spinning systems. Blends of rayon staple with natural fibers are also described and illustrated. The properties of Rayolanda and its blends with wool and with Fibro are also discussed. TTD: 12-47

Coated fabric. Harold A. Evans. Can. P. 442 540-1, July 1, 1947.

An elastic fabric, having its warp and weft threads running diagonally in relation to its edges, is coated, while stretched, on one face with a layer of plastic adhesive. The adhesive is allowed to dry while the fabric is under tension and then the tension is relaxed. TTD: 12-47

Impregnated fabric laminate. John Boyd & Richard A. Bice (to Can. Westinghouse Co., Ltd.). Can. P. 442 890, July 15, 1947.

Laminated sheets of fabric, in the form of a block, are impregnated with a thermosetting resin in steam, at 125°C and 20 psi, for a period of time sufficient to effect swelling. After drying, the resulting product is shaped to form a bearing stave. TTD: 12-47

Fabric decoration. Henry Freiberg (1/2 to Saml. Freiberg). Can. P. 442 993, July 15, 1947.

See USP 2 416 521, Feb. 25, 1947 (TTD: *4,* 175). TTD: 12-47

Nylon screen. Leonard G. Wise (to Can. Industries, Ltd.). Can. P. 443 413, Aug. 5, 1947.

A screen that is inherently insect-repellent is woven from nylon monofils which are rendered substantially non-slipping at their points of intersection by heating in the presence of a mild swelling agent. TTD: 12-47

Felted fibers. Gale T. Pearce (to Johns-Manville Corp.). Can. P. 443 849, Aug. 26, 1947.

See USP 2 373 500, Apr. 10, 1945 (TTD: *2*, 195). TTD: 12-47

CHEMICAL RAW MATERIALS V

Diamide textile lubricants. Edwin A. Robinson & Maurice J. Kelley (to Nopco Chemical Co.). USP 2 425 392, Aug. 12, 1947.

Diamides suitable for use as textile lubricants, synthetic waxes, ingredients in defoaming agents, and as emulsifiers are prepared by condensing fats and fatty acids with aliphatic diamines by heating at 120–200°C. TTD: 12-47

Plastics and elastomers V 1

Plastics. Plastics and textiles. A. V. Pringle. *J. Textile Inst. 38,* P176-9 (May, 1947).

A lecture on the production and processing of plastics. In the textile field plastics have many uses: textiles and accessories for use with textiles in the making-up trade may be plastics; mill construction and machinery may use plastic components; and in finishing textiles, plastic treatments are used. In addition, textiles may be used in making plastics. TTD: 12-47

Laminates. Herman E. Schroeder (to E. I. du Pont de Nemours & Co.). USP 2 425 349, Aug. 12, 1947.

Cyclized rubber is a resin-like material obtained by the action of acids on rubber at elevated temperatures. It is sold under the names Pliolite, Plioform, Thermoprene, etc. According to this patent, cyclized rubber is blended with thermosetting formaldehyde-mononuclear polyhydric phenol resols to produce an adhesive which gives a better bond strength than either of the components alone, especially at elevated temperatures. TTD: 12-47

Stabilization of cellulose ethers. John H. Sharphouse & John Downing (to Brit. Celanese, Ltd.). USP 2 425 351, Aug. 12, 1947.

The stability of cellulose ethers is improved by incorporating in them small amounts of oxidizable compounds, such as organic compounds containing amine and hydroxy groups, or sulfites. TTD: 12-47

Adhesive tape. Paul F. Ziegler (to Kendall Co.). USP 2 426 257, Aug. 26, 1947.

A pressure-sensitive adhesive with specific solvent resistance and superior aging qualities is prepared from a normally solid aromatic sulfonamide-formaldehyde resin, cellulose acetate, and a non-volatile liquid toluene sulfonamide plasticizer which is compatible with both the resin and the cellulose acetate. TTD: 12-47

Polyvinyl alcohol. Robt. A. Scheiderbauer (to Can. Industries, Ltd.). Can. P. 443 431, Aug. 5, 1947.

See USP 2 413 789, Jan. 7, 1947 (TTD: *4*, 117). TTD: 12-47

BRITISH CATALOGUE OF PLASTICS. Anon. Natl. Trade Press, London, 1947; 704 pp.; price 50s.

Reviewed in *J. Soc. Dyers Colourists 63,* 239 (July, 1947). TTD: 12-47

EXPERIMENTAL PLASTICS AND SYNTHETIC RESINS. G. F. D'Alelio. John Wiley & Sons, New York; Chapman & Hall, London; 194 pp.; price 18s.

Reviewed in *J. Soc. Dyers Colourists 63,* 271-2 (Aug. 1947). TTD: 12-47

Surface-active compounds V 2

Detergents. Synthetic detergents and surface activity. Cornelia T. Snell, Foster D. Snell, Inc. *J. Chem. Education 24,* 505-11 (Oct. 1947).

The nature, types, applications, and methods of evaluation of synthetic detergents are discussed. TTD: 12-47

READCO SURFACE-ACTIVE AGENT FILE. Research Advisory Corp., 17 S. High St., Columbus 15, Ohio; 1947; price $35.00.

Reviewed in *Chem. Eng. News 26,* 204 (Jan. 19, 1948). (This title covers a set of about 285 edge-notched, 5 × 8″ punched cards bearing chemical and physical data on commercially available surface-active agents.) TTD: 12-47

CHEMICAL PROCESSING VI

Finishing. New finishes. F. L. Barrett, Bleachers' Assn. Ltd. *J. Textile Inst. 38,* P145-54 (Apr. 1947).

Developments in mechanical finishes, chemical modification of fiber structure, and finishes produced by the fixation of an assistant in or on the fiber are reviewed. TTD: 12-47

Finishing knitted fabrics. Finishing of knitted garments and fabrics. E. R. Trotman. *J. Textile Inst. 38,* P208 (June, 1947).

Bleaching, shrinkproofing, and other finishing processes for knitted goods are briefly reviewed. TTD: 12-47

Finishing plastics. Announce new finishes for polystyrene plastics. Anon. *Fibre & Fabric 100,* No. 3257, 8 (July 5, 1947).

A brief note on clear and colored finishes (Monsanto) for polystyrene plastics. TTD: 12-47

Processing cellulosic textiles. Some trends in continuous processing of cellulosic textiles. R. G. Fargher. *J. Textile Inst. 38,* P219-22 (July, 1947).

Desizing, scouring and bleaching, dyeing and screen printing developments and trends are reviewed in a lecture. Many processes have been made continuous. TTD: 12-47

Washing. Washing machine for textiles with spreading devices. Heinrich Habig A-G. Ger. P. 728 729, Dec. 2, 1942. *Bibl. Sci. Ind. Reports 4,* 168 (Jan. 10, 1947); 4 pp.

This washing machine is composed of several tanks connected in series and spreading devices for the textiles, spraying pipes and wringers, all of which are interarranged between the tanks. TTD: 12-47

Wool scouring. Walter P. Ericks (to Am. Cyanamid Co.). Can. P. 442 712, July 8, 1947.

A detergent composition for use in scouring wool. TTD: 12-47

Kier piler. Robt. W. Vose (to Johnson & Johnson, Ltd.). Can. P. 443 658, Aug. 12, 1947.

See USP 2 386 371, Oct. 9, 1945 (TTD: *2,* 578). TTD: 12-47

Cleaning fabrics. Process and applicance for cleaning or soaking textile fabrics by the use of volatile solvents. Arnold Schuster. Ger. P. 707 529, June 25, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 4 pp. TTD: 12-47

Fabric treatment. Appliance for the wet treatment of single textile fabric pieces. Richard Weise. Ger. P. 713 623-4, Nov. 12, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 6 pp. TTD: 12-47

Thread treatment. Appliance for holding apart the individual threads of a skein soaked in a liquid bath. Renzo Boccardi. Ger. P. 715 131, Dec. 15, 1941. *Bibl. Sci. Ind. Reports 4,* 252 (Jan. 17, 1947); 3 pp. TTD: 12-47

Textile treatment. Appliance for wet treatment in the same tank of textile material in loose, skein or

wound package form. Korte & others (to I. G. Farbenindustrie A-G). Ger. P. 715 133, Dec. 15, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 5 pp. TTD: 12-47

Fabric treatment. Process for the production of "air embroidery" on fabrics of cellulose fibers or mixed fabrics of cellulose fibers and fibers from cellulose esters or ethers. Döring & Grassmäder (to I. G. Farbenindustrie A-G). Ger. P. 722 401, July 9, 1942. *Bibl. Sci. Ind. Reports 4,* 239 (Jan. 17, 1947).

This process is based on the treatment of the fabrics with sulfonic acids and subsequent drying, steaming and washing. TTD: 12-47

Wet treating. Pump installed on the bottom of a tank for wet treatment of textiles. Curt Förster. Ger. P. 727 318, Mar. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947). TTD: 12-47

Fulling. Process for fulling textiles. Breuer (to L. P. Hemmer, G.m.b.H.). Ger. P. 727 568, Nov. 6, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 3 pp. TTD: 12-47

Fabric treating bath. Device for mixing the bath in wet treatment of textile fabrics in several containers. Curt Förster. Ger. P. 728 833, Dec. 4, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 4 pp. TTD: 12-47

Fabric treatment. Apparatus for improvement of textiles containing plant fibers. Hans Herzog. Ger. P. 729 608, Dec. 18, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 6 pp. TTD: 12-47

Wet-treating tank. Tank for wet treatment of textiles. Thiel (to Gewerkschaft Keramchemite-Berggarten). Ger. P. 729 794, Dec. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 3 pp. TTD: 12-47

COLOR VII

Bleaching VII 1

Continuous bleaching. Recent developments in continuous bleaching of textiles. Thos. E. Bell, E. I. du Pont de Nemours & Co. *Papers Am. Assn. Textile Technologists 2,* 57-60 (Mar.-May, 1947).

The history and the basic operations are discussed and a typical system of continuous bleaching described. TTD: 12-47

Continuous bleaching. Continuous bleaching successful on colored-yarn goods. D. Stewart Quern,

Becco Sales Corp. *Textile World 97,* No. 7, 131, 192, 194 (July, 1947).

A continuous peroxide-bleaching range (at Highland Park Mfg. Co.), a single-stage unit, is briefly described and illustrated. TTD: 12-47

Bleaching. Donald J. Campbell (to E. I. du Pont de Nemours & Co.). USP 2 426 142, Aug. 19, 1947.

Per-acids, such as persulfuric, peracetic, monoperbenzoic, monoperphthallic, and monopersuccinic acids, are used in the souring step. These acids appear to act on the non-cellulosic impurities occurring in cotton to render them more soluble in alkaline solutions used in a subsequent step. The fabrics treated in this way are white, more porous, and more absorbent than those soured with ordinary acids, according to this patent. (*See also* USP 2 267 718.) TTD: 12-47

Bleaching. Process for bleaching cellulose fibers. Heinrich Hansen (to I. G. Farbenindustrie A-G). Ger. P. 720 775, May 15, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 2 pp. TTD: 12-47

Dyeing — VII 2

Continuous dyeing. Continuous pad-steam dyeing—a survey of its application. Paul L. Meunier, E. I. du Pont de Nemours & Co. *Papers Am. Assn. Textile Technologists 2,* 61-7 (Mar.-May, 1947).

Processes using steam as the fixing agent and their applications are reviewed. These processes facilitate the use of the desirable vat colors on cotton, rayon, and on mixed-fiber constructions, are easy to operate, are economical, and give excellent color effects and fastness. TTD: 12-47

Dyeing and finishing. Dyeing, printing and finishing in relation to fabric construction. R. S. Greenwood & C. P. Atkinson. *J. Soc. Dyers Colourists 63,* 208-13 (July, 1947).

A review of the importance of fabric construction on dyeing, printing, and finishing fabrics. TTD: 12-47

Dyeing cotton. Abbot-Cox process as applied to cotton. T. Richardson & E. R. Wiltshire. *J. Soc. Dyers Colourists 63,* 224-9 (July, 1947).

A paper on the Abbot-Cox process for dyeing cotton packages with vat dyes. TTD: 12-47

Dyeing nylon hose. New nylon-hose dye shows good wash fastness. C. M. Bowden, Textile World. *Textile World 97,* No. 8, 128-9 (Aug. 1947).

Pro-nyl (Specialty Products Co.) has given improved dyeing on full-fashioned nylon hose.
LCL TTD: 12-47

Dyeing rayon. Dyeing of celanese locknit fabrics. L. C. Mitchell. *J. Soc. Dyers Colourists 63,* 102-5 (Apr. 1947).

Technique used in the preparation, scouring, dyeing, and finishing of cellulose acetate rayon locknit is described. TTD: 12-47

Dyeing viscose rayon. Studies in viscose rayon dyeing: applications of dyeometer. G. L. Royer, H. R. McCleary & J. M. A. de Bruyne. *J. Soc. Dyers Colourists 63,* 254-9 (Aug. 1947).

Rayon manufacturing variations and variations in dyeing condition (salt concentration, yarn weight, temperature, etc.) are studied, and the Dyeometer used to obtain the dyeing data. TTD: 12-47

Dyeing viscose rayon. Some experimental work on dyeing of viscose rayon. C. C. Wilcock. *J. Soc. Dyers Colourists 63,* 136-40 (May, 1947).

A discussion of some experimental results relating to the dyeing of viscose rayon. It is noted that uniform dyeings on vicose yarns are much more difficult to obtain with vat dyes than with direct cotton dyes, this difficulty being due mainly to the rapid absorption of the leuco-vat dyes by viscose rayon. TTD: 12-47

Dyeing wool. Studies in wool dyeing: comparison of methods for applying chrome dyes. G. L. Royer, H. E. Millson & C. A. Amick. *J. Soc. Dyers Colourists 63,* 214-24 (July, 1947).

Variations in wool that influence the rate of dye exhaustion are reviewed, and 4 chrome dyeing methods are discussed and illustrated. Application procedures for these methods are given. TTD: 12-47

Dyeing wool. Wool dyeing assistants. S. Yates. *Textile Recorder 64,* No. 768, 45-6; No. 769, 50-1, 64 (Mar., Apr., 1947).

The function, nature, and action of assistants in various wool dyeing methods are discussed. TTD: 12-47

Dyes. Critical review of various methods extant for preparation of mononitronaphthylamines. H. H. Hodgson & D. E. Hathway. *J. Soc. Dyers Colourists 63,* 231-3 (July, 1947).

Methods of preparation of the mononitronaphthylamine dyes are reviewed. TTD: 12-47

Redyeing wool. Redyeing of faded woolen garments. G. G. Simpson. *J. Soc. Dyers Colourists 63,* 171-7 (June, 1947).

Methods of redyeing faded woolen garments are discussed, with details of material preparation, dyebath conditions, etc. It is shown that the one-bath union method, when used with properly selected dyes, gives

better dyeing of faded woolens than the two-bath method. TTD: 12-47

Predyeing treatment. Paul S. Pinkney (to Can. Industries, Ltd.). Can. P. 443 417, Aug. 5, 1947.

A Fiber D regenerated cellulose textile material is treated with phenyl isocyanate in order to impart to it an affinity for an acid dye. TTD: 12-47

Dyeing. Procedure and appliance for dyeing textile products, particularly fabric webs. Max Müller. Ger P. 715 132, Dec. 15, 1941. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 5 pp. TTD: 12-47

Dyeing. Appliance for moistening, dyeing, and impregnation of yarn. Knoblauch (to D. Dupuis & Co.). Ger. P. 715 195, Dec. 16, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 4 pp. TTD: 12-47

Dyeing. Process for dyeing curled ribbons made of cellulose acetate fiber. Gewehr (to Deutsche Acetat-Kunstseiden A-G). Ger. P. 718 227, Mar. 6, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 2 pp.

Solutions are employed which are prepared from stabilized diazo compounds and ice color components, or from an alcohol-acetone-water mixture of acid esters of azo dyes, insoluble in water, which are obtained from diazonium compounds and ice color components. TTD: 12-47

Color fastness. Process for improving the fastness to rubbing of ice colors on textile fabrics by an aftertreatment. Ellner (to I. G. Farbenindustrie A-G). Ger. P. 721 217, May 29, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947); 3 pp. TTD: 12-47

Dyeing. Process for dyeing fibrous materials or synthetic materials which contain nitrogen atoms with exchangeable hydrogen atoms. Klenck (to I. G. Farbenindustrie A-G). Ger. P. 721 231, June 2, 1942. *Bibl. Sci. Ind. Reports 4,* 238 (Jan. 17, 1947); 3 pp. TTD: 12-47

Dyeing wool-rayon blends. Process for the development of azo dyes on mixed fabrics of wool and viscose rayon. Alt & others (to I. G. Farbenindustrie A-G). Ger. P. 721 269, June 2, 1942. *Bibl. Sci. Ind. Reports 4,* 239 (Jan. 17, 1947); 3 pp. TTD: 12-47

Wool-dye fastness. Process for improving the fastness to light of colorations obtained with soluble wool dyes on animalized artificial fibers. Rein (to I. G. Farbenindustrie A-G). Ger. P. 722 335, July 7, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan 17, 1947). TTD. 12-47

Color fastness. Process for improving the fastness to moisture of ice colors. Jellinek (to I. G. Farbenindustrie A-G). Ger. P. 722 729, July 21, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947). TTD: 12-47

Wool-dye fastness. Process for improving the fastness to light of colorations obtained with soluble wool dyes on animalized artificial fibers. Rein (to I. G. Farbenindustrie A-G). Ger. P. 723 491, Aug. 5,1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947. TTD: 12-47

Dyeing. Process for dyeing animal fibers and other nitrogen-containing substances. Nüsslein & Klenck (to I. G. Farbenindustrie A-G). Ger. P. 726 130, Oct. 7, 1942. *Bibl. Sci. Ind. Reports 4,* 238 (Jan. 17, 1947). TTD: 12-47

Substantive-dye fastness. Process for the improvement of the degree of fastness in coloration produced with substantive dyes on cellulose fibers. Münz & Keller (to I. G. Farbenindustrie). Ger. P. 727 917, Nov. 17, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947). TTD: 12-47

Substantive-dye fastness. Process for the improvement of the degree of fastness in coloration to non-alkaline treatment done with substantive dyes on cellulose fibers. Münz & Keller (to I. G. Farbenindustrie A-G). Ger. P. 728 157, Nov. 27, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947). TTD: 12-47

CLEANING AND DYEING PROFICIENCY. Frank Conyers. Heywood & Co., Ltd.; 165 pp.; price 10s 6d.

Reviewed in *J. Textile Inst. 38,* P209-10 (June, 1947). TTD: 12-47

Printing VII 3

Printing. Block printing. N. Hamer; Printed dress goods. G. S. Hibbert; Printing of shirtings. H. S. Pogson; Screen printing. E. S. Beton. *J. Soc. Dyers Colourists 63,* 98-101 (Apr. 1947).

The history of block printing is briefly surveyed, and a review of printing dress goods, shirting and organdie, screen and block printing is given in a series of short addresses. TTD: 12-47

Printing. Vat and azoic color preferred for printing. Arthur K. Saville, E. I. duPont de Nemours & Co. *Textile World 97,* No. 8, 122-3, 190, 192, 195-6 (Aug. 1947).

Selection of pastes and colors should be carefully considered. Technical control of operations and constant laboratory checking maintain quality.
LCL TTD: 12-47

Printing blanket. Preserving life of printers' blanket. Anon. *Textile Recorder 64,* No. 769, 52-4 (Apr. 1947).

Printing blankets are of woven cotton fabric, impregnated and waterproofed to give resilience, wear, etc. The causes of soiling are discussed, and methods of washing blankets reviewed. TTD: 12-47

Screen printing. Modern trends on screen printing. F. F. Jacobs, Gen. Dyestuff Corp. *Papers Am. Assn. Textile Technologists 2,* 113-20 (June-Aug. 1947).

Modern procedures, advantages, and costs were taken up by the author and discussed by the audience. TTD: 12-47

Printing. Apparatus for printing of textiles by means of film stencil. Erwin Hickish & Stefan Wilsch. Ger. P. 711 291, Sept. 29, 1941. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 10 pp. TTD: 12-47

Printing stencils. Appliance for simultaneous printing on both sides of strips of cloth by means of stencils. Franz Zimmers Erben K-G. Ger. P. 711 758, Oct. 6, 1941. *Bibl. Sci. Ind. Reports 4,* 255 (Jan. 17, 1947); 5 pp. TTD: 12-47

Printing. Process for preparation of transparent patterns on textile fabrics of vegetable origin. Hefti (to A-G Cilander). Ger. P. 716 086, Jan. 14, 1942. *Bibl. Sci. Ind. Reports 4,* 252 (Jan. 17, 1947); 2 pp. TTD: 12-47

Azo dye printing. Process for the preparation of azo dyes, insoluble in water, in cloth printing. Kollmann & Glietenberg (to I. G. Farbenindustrie A-G). Ger. P. 716 433, Jan. 19, 1942. *Bibl. Sci. Ind. Reports 4,* 240 (Jan. 17, 1947); 2 pp. TTD: 12-47

Printing thickener. Process for the preparation of thickening agents for cloth printing. Jülicher & Appelt (to Diamalt A-G, Munich). Ger. P. 716 912, Feb. 3, 1942. *Bibl. Sci. Ind. Reports 4,* 238 (Jan. 17, 1947); 2 pp.

This process is characterized by heating first-grade carob bean flour mixed with urea for 20-60 min. at 150-180°C. TTD: 12-47

Printing. Process for the preparation of ice colors in cloth printing. Riedmair & others (to I. G. Farbenindustrie A-G). Ger. P. 717 024, Feb. 4, 1942. *Bibl. Sci. Ind. Reports 4,* 239 (Jan. 17, 1947); 3 pp. TTD: 12-47

Aftertreating printed fabrics. Appliance for steaming, unfolding and drying of printed textile fabrics. Grünert & Ulrich (to Zittauer Maschinenfabrik A-G). Ger. P. 719 000, July 9, 1942. *Bibl. Sci. Ind. Reports 4,* 255 (Jan. 17, 1947); 2 pp. TTD: 12-47

Vat-dye printing. Process for printing on vegetable fibers with vat dyes. Schliephake (to M. Van Delden & Co.). Ger. P. 719 336, Apr. 8, 1942. *Bibl. Sci. Ind. Reports 4,* 238 (Jan. 17, 1947); 2 pp. TTD: 12-47

Vat-dye printing. Process for the preparation of prints and etched color prints upon cellulose fabrics or natural silk by means of ester salts of leuco vat dyes. Durand & Huguenin A-G. Ger. P. 720 077, Apr. 27, 1942. *Bibl. Sci. Ind. Reports 4,* 238 (Jan. 17, 1947); 2 pp. TTD: 12-47

Aftertreating printed fabrics. Appliance for steaming, unfolding, and drying of printed textile fabrics. Renery (to Zittauer Maschinenfabrik A-G). Ger. P. 720 219, July 9, 1942. *Bibl. Sci. Ind. Reports 4,* 255 (Jan. 17, 1947); 4 pp. TTD: 12-47

Printing. Appliance for manual multicolored printing on strips of cloth, using film stencils and color applicators. Illay (to Göcke & Sohn). Ger. P. 722 704, July 17, 1942. *Bibl. Sci. Ind. Reports 4,* 253 (Jan. 17, 1947); 5 pp. TTD: 12-47

BI-CENTENAIRE DE L'IMPRESSION SUR ETOFFE EN ALSACE 1746-1946 (Bicentennial of fabric printing in Alsace). Bull. No. III-IV. Société Industrielle de Mulhouse; 1946; 110 pp.; price 300f.

Reviewed in *J. Soc. Dyers Colourists 63,* 299-30 (Sept. 1947). TTD: 12-47

PIGMENTS: THEIR MANUFACTURE AND PROPERTIES. J. S. Remington. Leonard Hill, Ltd., London, 1947; 182 pp.; price 12s.

Reviewed in *J. Soc. Dyers Colourists 63,* 272 (Aug. 1947). TTD: 12-47

TECHNIQUE OF COLOR PRINTING BY LITHOGRAPHY. T. E. Griffits. Faber & Faber, Ltd., London, 1944; 126 pp.; price 15s.

Reviewed in *J. Soc. Dyers Colourists 63,* 153 (May, 1947). TTD: 12-47

Measurement and defects VII 4

Cotton degradation. Action of light on dyed and undyed cotton. G. S. Egerton. *J. Soc. Dyers Colourists 63,* 161-71 (June, 1947).

The photochemical degradation of cotton, undyed and dyed with different vat dyes, is discussed. Experiments and their results, using sunlight and high-pressure mercury vapor lamps under different conditions, are described. TTD: 12-47

Dye absorption. Acid nature of vegetable fibers in relation to basic dye absorption. P. B. Sarkar, H. Chatterjee, A. K. Mazumdar & K. B. Pal. *J. Soc. Dyers Colourists 63,* 229-31 (July, 1947).

The analyses for the acid values and absorption of Methylene Blue of 12 vegetable fibers are described. The results show that a fairly close relationship exists between these 2 values, and that the absorption of basic dyes by cellulosic fibers appears to be due to acidic constituents in the holocellulose portion. TTD: 12-47

Light. Action of light on some direct and vat dyes, dyed on nylon, K. S. Khandberia & B. K. Vaidya, Univ. of Bombay. *J. Sci. Ind. Research (India) 6,* B, 24-8 (Feb. 1947).

A discussion of an investigation of the light fastness of direct and vat dyes on nylon as compared with cotton, wool and viscose. TTD: 12-47

Light absorption. Absorption of light by chemical compounds. E. J. Bowen. *J. Soc. Dyers Colourists 63,* 281-7 (Sept. 1947).

A lecture on light absorption by dyes and other chemical compounds. TTD: 12-47

INTRODUCTION TO CHROMATOGRAPHY. T. I. Williams. Blackie & Son, Ltd., London, 1946; 108 pp.; price 10s.

Reviewed in *J. Soc. Dyers Colourists 63,* 152-3 (May, 1947). TTD: 12-47

PROOFING VIII

Fireproofing. New flameproofing methods. Anon. *Jute & Canvas Rev. 19,* No. 229, 13 (Oct. 1947).

A new fireproofing compound, "Chex-Flame," and a fireproof finished cloth, "Flamefoil Fabrix," are briefly noted. TTD: 12-47

Flameproofing. Fireproofing of textiles. Norman Clarke-Jones. *Textile Recorder 64,* No. 767, 49-52, 61, No. 768, 56, 59 (Feb., Mar. 1947).

In a paper, summarized, are outlined various fireproofing methods practiced in Great Britain, France, and the U. S. Principles underlying the application of different flameproofing media are reviewed. Vertical flame tests and accelerated weathering tests for fireproofed fabrics are described. TTD: 12-47

Mildewproofing. Mildewproofing of canvas. Anon. *Jute & Canvas Rev. 18,* No. 226, 17 (July, 1947).

Work on the fungicidal properties of 2,2'-dihydroxy-5,5' dichlorodiphenyl methane, commonly called G-4, is reviewed. (*See* USDA Tech. Bull. 892.) TTD: 12-47

Mothproofing. Carpet-beetle control unsolved wool problem. Henry N. Mitchell. *Textile World 96,* No. 11, 170, 221-2 (Nov. 1946).

A completely satisfactory mothproofing compound for textiles has not been discovered. Organic compounds applied in the dye-bath have the advantage over the silicofluorides that they are fast to washing. Both types of insecticides resist removal in the dry cleaning process. Some derivatives of salicylic acid were found to control both clothes-moth and the carpet beetle larvae and to be resistant to dry cleaning and light washing. Carpet beetle larvae have been observed to build up a resistance to the most toxic mothproofing compounds. TTD: 12-47

Proofing. Moistureproofing and fungiproofing power unit PU-58/G. PB 48249 (June, 1945). War Dept. *Bibl. Sci. Ind. Reports 4,* 95 (Jan. 10, 1947); 7 pp.; $1.00 (Microfilm or photostat).

Moistureproofing and fungiproofing treatment to be applied to Signal Corps equipment is outlined, and special instructions are given for power unit PU-58/G. Photographs are included. TTD: 12-47

Proofing. Moistureproofing and fungiproofing power unit PU-8/TTQ-1. PB 48 251 (June, 1945). War Dept. *Bibl. Sci. Ind. Reports 4,* 95 (Jan. 10, 1947); 5 pp.; $1.00 (Microfilm or photostat).

Moistureproofing and fungiproofing treatment to be applied to Signal Corps equipment is outlined, and special instructions are given for power unit PU-8/TTQ-1. Photographs are included. TTD: 12-47

Proofing. Signal generator TS-301/U, moistureproofing and fungiproofing. PB 48257 (Apr. 1945). War Dept. *Bibl, Sci. Ind. Reports 4,* 95 (Jan. 10, 1947); 4 pp.; $1.00 (Microfilm or photostat).

Moistureproofing and fungiproofing treatment to be applied to Signal Corps equipment is outlined, and special instructions are given for signal generator TS-301/U. Photographs are included. TTD: 12-47

Rotproofing. Partial acetylation process for proofing against rot and mildew. Anon. *Jute & Canvas Rev. 18,* No. 227, 11 (Aug. 1947).

Results of partial acetylation of cotton cloth and thread for proofing against rot and mildew are discussed. TTD: 12-47

Shrinkproofing wool. Recent developments in use of halogen treatments. A. J. Hall. *Textile Recorder 64,* No. 768, 47–9, 55 (Mar. 1947).

Non-felting wool is urgently needed for many purposes, but no completely satisfactory process has been discovered. The indications are that Br will come into use before F is used. Iodine has proved to be completely devoid of all power to reduce the felting power of wool. TTD: 12-47

Waterproofing composition. Sidney M. Edelstein. USP 2 426 300, Aug. 26, 1947.

Cellulose is dissolved in an aqueous solution of sodium zincate containing an excess of NaOH and a waterproofing wax with a melting point above 100° F, dispersed as the discontinuous phase in the solution with the aid of a water-soluble dispersing agent. A soluble Al salt may also be added. The solution is acidified to precipitate the wax and the cellulose, which are then washed with a dilute solution of an Al salt. The cellulose and wax will be deposited on fabrics immersed in the solution. The fabrics treated in this way retain their water repellency after repeated laundering, and have the dyeing and finishing properties characteristic of cellulose fabrics. The Al salt improves the original emulsification of the wax and the waterproofing effect in the finished fabric. TTD: 12-47

Waterproof coating. Geo. O. Morrison & Henry M. Collins (to Shawinigan Chemicals, Ltd.). Can. P. 441 392, May 13, 1947.

For error in claim 1, see *Can. Patent Office Record 75,* No. 51, 3 (Dec. 23, 1947); and *cf.* TTD: *4,* 332. TTD: 12-47

FLAMEPROOFING TEXTILE FABRICS. Robt. W. Little. Reinhold Publishing Corp., New York; 1947; 410 pp.; price $6.75.

Reviewed in *Chem. Industries 61,* 1056 (Dec. 1947). TTD: 12-47

TESTING AND ANALYSIS IX

Cellulose nitrate films. Strains and stresses in cellulose nitrate films. J. S. Gourlay. *Aircraft Eng. 18,* 296-8, 318 (1946).

The relationship between the bending of thin plates of edge couples and the behavior of the composite structure obtained when colloid films are deposited on a substrate possessing little rigidity has been studied. Among the substrates tested are linen, tissue paper, filter paper and muslin. The tautening of fabrics on the supporting surfaces of aircraft is an example in which accurate knowledge of the elastic constants as a function of temperature and humidity are important; in this paper,

the tautening of fabric is related to the elastic constants, by analogy with the forces required to bend a thin plate to the form of a cylindrical shell. TTD: 12-47

INDUSTRIAL EXPERIMENTATION. K. A. Brownlee. H. M. Stationery Office, 1946; 116 pp.; price 2s.

Reviewed in *J. Soc. Dyers Colourists 63,* 151-2 (May, 1947). TTD: 12-47

TESTING OF YARNS AND FABRICS. N. Eyre (*Textile Mfr.* Monograph No. 4). Emmott & Co., Ltd., Manchester; 64 pp.; price 2s 6d.

Reviewed in *J. Textile Inst. 38,* P235 (July, 1947). TTD: 12-47

TEXTILE MICROSCOPY IN GERMANY. Textile Series—Report No. 13. Textile Research Institute, Inc., 10 East 40th St., New York 16, N. Y.; 147 pp.; 1947; price $3.50.

Reviewed in *Chem. Eng. News 26,* 203 (Jan. 19, 1948). TTD: 12-47

YARN AND CLOTH CALCULATIONS. Lloyd H. Jackson. Textile Book Publishers, Inc., New York, N. Y.; 198 pp.; price $6.00.

Reviewed in *Textile World 97,* No. 7, 222 (July, 1947). TTD: 12-47

Physical properties IX 1

Cloth inspection. New cloth inspecting and rolling machine. Anon. *Textile Recorder 64,* No. 769, 45 (Apr. 1947).

A new machine is described that examines, measures and rolls material in one operation. A variable speed drive, foot-controlled reversing gear, and adjustable examining table are some of the features of this machine. TTD: 12-47

Dye strength determinations. Accuracy of colorimetric instruments in dye strength determinations. O. L. Davies, C. H. Giles & T. Vickerstaff. *J. Soc. Dyers Colourists 63,* 80-3 (Mar. 1947).

Experimental details of testing the accuracy of the photoelectric absorptiometer, spectrophotometer, and Duboscq-type colorimeter in dye-strength determinations are given. The photoelectric absorptiometer gives the most consistent results and is not dependent on the color-matching experience of the operator. TTD: 12-47

Microscopy. Application of microscopy to textile field. G. L. Royer & C. Maresh. *J. Soc. Dyers Colourists 63,* 287-93 (Sept. 1947).

The use of microscopy for studying fiber and fabric structure, fiber identification, dye penetration, causes of

color defects, and other problems of dyeing, printing, and finishing are discussed. TTD: 12-47

Tension meter. New tension meter. Anon. *Jute & Canvas Rev. 19,* No. 229, 14 (Oct. 1947).

The Saxl tension meter was designed to be used in the selection of the highest operating speeds at which yarns can be handled without excessive stretching. It is claimed that the instrument can be used to increase production and improve the quality of all types of thread-like materials. TTD:12-47

Testing laboratory. Test house of the aeronautical inspection department at Harefield, Middlesex. Anon. *Engineering 160,* 442-3 (Nov. 30, 1945).

The A.I.D. Test House provides facilities for testing any material to be used in the construction of aircraft. The Denison machine is used in testing textiles such as parachute fabrics, glider towing ropes, etc. Porosity tests are run on rubberized fabrics, such as those used in the manufacture of dinghies, and balloon fabrics are tested for their permeability to hydrogen. The air in the laboratory is conditioned in regard to humidity as well as temperature. TTD: 12-47

Testing rainwear. Report of test of raincoat, synthetic coated, O.D. PB 49529 (May, 1945). U. S. Quartermaster Board. *Bibl. Sci. Ind. Reports 4,* 233 (Jan. 17, 1947); 16 pp.; $1.00 (Microfilm); $2.00 (Photostat).

Tests were conducted on the standard and experimental raincoats both made of synthetic resin-coated fabrics. The standard, type 3 was manufactured with raglan-type sleeves, a plain back and slash pockets, and the experimental raincoat with set-in sleeves, a yoke in back with a panel of uncoated fabric underneath, and patch pockets with flaps, and was longer in length. The experimental type was found superior with respect to protection afforded the trouser legs. Modifications in length and in length of sleeves are recommended. The flap pockets of the experimental type were satisfactory but further improvements are recommended, as well as a further test to determine the ventilation value of a panel of uncoated fabric under the yoke. Exhibits B-F contain photographs and a table showing average amount of perspiration and evaporation. There is no Exhibit A. TTD: 12-47

Testing tents. Arctic tent, barren land, 3-4 man—20-foot wind tunnel test No. 49. Paul E. Hauster. PB 48402 (Sept. 1946). *Bibl. Sci. Ind. Reports 4,* 233 (Jan. 17, 1947); 19 pp.; $1.00 (Microfilm); $2.00 (Photostat).

At the request of the Land Survival Branch, Personal Equipment Laboratory, project K-62, a nylon, 3-4 man,

A-type tent, designed for use in arctic regions, was subjected to wind velocities ranging from 30 to 100 mph. It was concluded that the tent was able to withstand satisfactorily a wind velocity of 100 mph. Appendix 1 contains photographs that were taken of the arctic tent installation in Wright Field 20-foot wind tunnel, and appendex 2 contains photographs of motion pictures taken at each increment of velocity. TTD: 12-47

Wool frictional properties. Frictional properties of wool and other textile fibers. E. H. Mercer & K. Rachel Makinson. *J. Textile Inst. 38,* T227-40 (May, 1947).

The stick-slip apparatus for measuring the coefficient of friction of textile fibers is described and illustrated. Frictional properties of textile fibers, particularly wool, are reviewed, and the cause of the frictional characteristics of wool is discussed. TTD: 12-47

Textile testing machine. Machine for multi-folding and pressing of rectangular textile pieces. Ernst Bernstein. Ger. P. 724 212, Aug. 20, 1942. *Bibl. Sci. Ind. Reports 4,* 252 (Jan. 17, 1947); 6 pp. TTD: 12-47

MICROSCOPE. ITS THEORY AND APPLICATIONS. J. H. Wredden. Churchill, 1947; 320 pp.; price 21s. Reviewed in *J. Textile Inst. 38,* P211-12 (June, 1947). TTD: 12-47

Chemical analysis IX 2

Cotton maturity tests. New dye technique shows maturity of cotton. Chas. F. Goldthwait, Herbert O. Smith & Mary P. Barnett, Southern Regional Research Laboratory. *Textile World 97,* No. 7, 105-8, 201-2, 204, 206 (July, 1947).

Clear identification of thick-walled and thin-walled cotton is obtained by a technique which dyes each a different color in the same dyebath. Neps and other mill troubles from thin-walled cotton may be distinguished by means of this differential dyeing technique.
LCL TTD: 12-47

Testing resin films. Alkoxyl content of urea formaldehyde resin films. B. M. Shaw. *J. Soc. Chem. Industry 66,* 147-9 (May, 1947).

Determination of the butoxyl content of cured urea-formaldehyde-butanol resin films by the modified Zeisel method is described. TTD: 12-47

Velan PF determination. Some chemical aspects of application of Velan PF to cotton fabrics. F. V. Davis. *J. Soc. Dyers Colourists 63,* 260-3 (Aug. 1947).

A method for estimating the amount of Velan PF applied

to cotton fabrics is described, and an investigation of the chemical aspects of Velan PF-treated fabrics is discussed.
TTD: 12-47

TEXTILE MILLS X

New mill. New Lees mill shows advanced engineering. Anon. *Textile World 97,* No. 7, 109-11 (July, 1947).

A brief pictorial presentation of a new $3,500,000 plant (Jas. Lees & Sons, Co.). TTD: 12-47

Spain's textile industry. Spain has one really modern textile mill. Chas. S. Underwood. *Textile World 97,* No. 7, 101-3 (July, 1947).

The Spanish textile industry (with 2 1/4 million spindles and 84,000 looms) is centered in Barcelona. Production of cotton goods is just about enough for domestic needs. This brief review of the industry is based on a survey covering a period of 18 months. TTD: 12-47

Buildings, machinery, power X 1

Anti-splash oiling. Cancer prevention and oil saving in mule spinning. Anon. *Platt's Bull. 5,* 128-9 (Mar.-Apr. 1947).

A brief description of the Tonge oiling system which consists of a cotton wick that runs the whole length of the mule carriage and makes contact with each spindle.
TTD: 12-47

Bobbin refinishing. Bobbin refinishing machine gives low-cost, uniform results. Anon. *Textile World 97,* No 8, 148, 150 (Aug. 1947).

A new bobbin refinisher (J. M. Nash Co.'s No. 88) handling 10 bobbins a min. is described and illustrated.
TTD: 12-47

Corrosion-resisting steels. Corrosion resisting steels for textile industry. J. A. McWilliam, Firth-Vickers Stainless Steels, Ltd. *J. Textile Inst. 38,* P123, 154-5 (Mar.-Apr. 1947).

A paper reviewing the use of corrosion-resisting steels for textile equipment is summarized. TTD: 12-47

Electrification. Electrification of textile industry. Anon. *Textile Recorder 64,* No. 768, 59 (Mar. 1947).

Work reported by the Research Laboratory of the British Thomson-Houston Co. is reviewed. Two silicone varnishes have been developed for use in electrical insulation. One of these was used for treating woven glass tape, and the product was found to be stable at 240°C for 186 days. Applications of polythene and of synthetic resin bonded laminations are reported. Ex-

perimental boards have been made from special woven fabrics which have excellent mechanical characteristics.
TTD: 12-47

Mill floors. Wood-asphalt-concrete sandwich answers mill floor problem. Paul L. Geiringer. *Textile World 96,* No. 11, 141, 194, 196, 198, 200 (Nov. 1946).

Mill floors are discussed in relation to their ideal construction. They must be "foot-warm," easy to clean, sturdy, and long wearing. A wood floor laid on asphalt and concrete is found to be best for dry-processing rooms, and cement or glazed-tile floor best for wet-processing rooms. TTD: 12-47

Mill modernization. Specific plans reveal progressiveness. Anon. *Textile World 96,* No. 11, 105-8 (Nov. 1946).

A review of modernization and expansion programs of cotton, knitting, synthetics, wool, and finishing mills.
TTD: 12-47

Recording instruments. Value of recording instruments in avoiding power losses. J. G. Hall. *Textile Recorder 64,* No. 769, 59-60 (Apr. 1947).

By the use of recording instruments which can be wired into circuits, where electric drives are used, to show where unnecessary power is consumed, power losses may be greatly reduced. TTD: 12-47

Tramp iron. Permanent magnets reduce fires and damage. Anon. *Textile World 97,* No. 8, 118-19, 208, 210, 212 (Aug. 1947).

The removal of tramp iron by magnets is well justified in reduced possibilities of fire and machinery damage.
LCL TTD: 12-47

Cloth measuring. Cloth laying machine with built-in measuring drum. Jos. Monforts. Ger. P. 716 578, Jan. 23, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 3 pp. TTD: 12-47

Cloth measuring. Appliance for checking the folding stroke in cloth length-measuring and cloth laying machines. Jos. Monforts. Ger. P. 718 226, Mar. 6, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 3 pp. TTD: 12-47

Cloth measuring. Appliance for conveying a strip of cloth without tension to the measuring drum of a machine for measuring length. A. Monforts & M. Firma. Ger. P. 718 503, Mar. 13, 1942. *Bibl. Sci. Ind. Reports 4,* 254 (Jan. 17, 1947); 4 pp.
TTD: 12-47

Lighting and air — X 2

Air conditioning. Modern humidification installed in Lonsdale Mills. Anon. *Textile World 96,* No. 11, 118-19 (Nov. 1946).

An illustrated discussion of the new evaporative cooling and humidification system at a mill (Lonsdale Co.).
TTD: 12-47

Air conditioning. Air conditioning pays off in 4 southern mills. Anon. *Textile World 97,* No. 8, 111-13 (Aug. 1947).

Installations at China Grove Cotton, Drayton, and Highland Park Mills and another mill (unnamed) are illustrated and briefly described. TTD: 12-47

Air conditioning. Hosiery head cites air-conditioning benefits. Anon. *Fibre & Fabric 100,* No. 3257, 6-7 (July 5, 1947).

Advantages of air conditioning in hosiery mills are reviewed. TTD: 12-47

Air conditioning for winding. Cleanliness is essential to quality winding. P. M. Thomas, Textile World. *Textile World 97,* No. 8, 120-1 (Aug. 1947).

The quality of production can be increased by careful attention to cleaning air and equipment and training operators in cleanliness. Precipitron units (Westinghouse) installed at Dixie Mercerizing Co. are briefly described.
LCL TTD: 12-47

Conditioned spinning room. Pacolet refrigerates spinning room air conditioning. C. Mallard Bowden, Textile World. *Textile World 97,* No. 7, 120-1, 141 (July, 1947).

The installation of refrigerated air conditioning in a spinning room (first in a U. S. cotton mill) at Pacolet Mfg. Co. is described and illustrated. TTD: 12-47

Dust removal. Modern dust removal methods. N. H. Crosland. *Jute & Canvas Rev. 19,* No. 229, 11 (Oct. 1947).

The failure of dust collecting systems in textile plants is generally due to poor design. The air velocity should be sufficient to lift the light dust without carrying off the fibers. The dust is frequently of value for soil conditioning. It should be collected in filters made of cotton duck, wool-lined, to permit filtration in depth. Some details of the design and construction of dust collecting systems are given. TTD: 12-47

Wastes — X 3

Stream sanitation. Stream-sanitation research is four-

fold. Anon. *Textile World 97,* No. 7, 125, 194 196, 198, 201 (July, 1947).

The work of ITT on stream sanitation, its objectives and status are briefly surveyed.
LCL TTD: 12-47

Hazards; operations; efficiency — X 4

Accidents. Accident frequency as related to good safety record. C. A. Anderson, Am. Mutual Liability Insurance Co. *Textile World 96,* No. 11, 127, 129 (Nov. 1946).

Causes of accidents are briefly reviewed. Correction of these causes reduces accidents, increases production, and lowers costs. TTD: 12-47

Brine for dyeing. Saturated brine reduces costs at Dan River. Norman Agnew. *Textile World 97,* No. 8, 135, 200, 202, 204 (Aug. 1947).

A storage lixator, with a capacity of 18 carloads of salt, reduces salt-handling operations from 8 to 1. Saturated brine, controlled by a flow-stop meter, is pumped a maximum distance of 3700 ft. from storage tank to dyehouses. TTD: 12-47

Control instruments. Textile progress accents instrumentation. R. Pollock, Jr., Brown Instrument Co. *Papers Am. Assn. Textile Technologists 2,* 131-5 (June-Aug. 1947).

The control of temperature, moisture, rate of flow, pH, and steam consumption are discussed, and the application of control instruments to textile processes described. TTD: 12-47

Knitting machine handling. Full-fashioned machines travel by special delivery. C. Mallard Bowden, Textile World. *Textile World 97,* No. 7, 114-17 (July, 1947).

A new shipping and delivery method (by Turner Truss-Skid method) materially reduces the time of transportation and installation of full-fashioned knitting machines (from about 16 weeks down to 3 weeks). Important phases of the shipping and delivery are illustrated and briefly described. TTD: 12-47

Wool handling. Grapple speeds wool handling. Arthur M. Stevens. *Textile World 97,* No. 7, 137 (July, 1947).

A system of cranes with special grapples, with one operator, can handle 20,000 lbs. per hr. TTD: 12-47

Yarn conveyor. Conveyor cuts handling and saves floor space. H. R. Moore, U. S. Rubber Co. *Textile World 97,* No. 7, 143, 145, 208, 210 (July, 1947).

A combination of automatic belt and gravity conveyors

(at U. S. Rubber's Reid Mill) replaces an elevator for handling yarns between the spinning and spooler rooms.
TTD: 12-47

BASIC SCIENCES XI

Cellulose. Conduction of electricity through cellulose. J. B. O'Sullivan. *J. Textile Inst. 38,* T271-306 (July, 1947).

The conductivity of salt-impregnated cellulose sheets is determined by the kind and quantity of salt present and the moisture content. Conduction is essentially ionic, since chemical effects of the same kind as the electrolysis of aqueous salt solution accompany passage of the electric current. The mobilities of ions in cellulose sheets are dependent on the moisture content.
TTD: 12-47

Detergent action. Influence of soap hydrolysis on detergent action. K. Tomlinson. *J. Soc. Dyers Colourists 63,* 107-9 (Apr. 1947).

A discussion of the low detergent power of soap solutions at a concentration corresponding to that of maximum soap hydrolysis. The addition of substances to suppress soap hydrolysis is also discussed.
TTD: 12-47

Dyeing. Absorption isotherm for direct dyes. J. Crank. *J. Soc. Dyers Colourists 63,* 293-6 (Sept. 1947).

A review of a new theory of direct dyeing presented in terms of the Langmuir theory of surface absorption. A formula is given that relates the equilibrium absorption of dye to the temperature, dyebath concentration, and concentration of the foreign electrolyte. TTD: 12-47

Dyes. Absorption spectra of some N-acetyl derivatives of *p,p'*-diaminotriphenylmethane dyes. Estella R. Katzenellenbogen & Gerald E. K. Branch, Univ. of California. *J. Am. Chem. Soc. 69,* 1978-85 (Aug. 1947).

A discussion of an investigation of the absorption spectra of derivatives of diaminotriphenylmethane dyes.
TTD: 12-47

Flow resistance. Flow-resistance characteristics of fibrous acoustical materials. R. H. Nichols, Jr. *J. Acoust. Soc. Am. 19,* No. 5, 866-71 (Sept. 1947).

The following empirical relation has been established for materials of high porosity (0.9-1.0):

$$\text{Flow resistance, } R = K\frac{S^{(1+x)}}{T^{x}r^{2}}$$

where K is a constant, characteristic of a particular material, S is the surface density of the blanket of material, T is the thickness, and r is the cross-sectional radius of the fibers. The type of construction of the materials determines the value of x. Materials tested include paper, glass wool, kapok, milk weed, mineral wool, cotton and rayon. TTD: 12-47

Gums. Chemistry of some plant gums and mucilages. E. L. Hirst & J. K. N. Jones. *J. Soc. Dyers & Colourists 63,* 249-54 (Aug. 1947).

A discussion of the chemistry and structure of various plant gums and mucilages. TTD: 12-47

High polymer structure. Molecular structure and mechanical properties of fiber-forming high polymers. Herman F. Mark. Polytechnic Inst. of Brooklyn. *Papers Am. Assn. Textile Technologists 2,* 9-19 (Nov. 1946-Feb. 1947).

To produce a useful polymer, it is necessary to synthesize chain molecules with a DP around 1000, having a certain degree of internal flexibility, and to bring this into the required physical state; *i.e.,* a certain relationship between the solid, the rubbery, and the liquid phases. To produce a strong, resilient fiber, the solid state must predominate to give stiffness and tenacity, and there must be some rubberiness to give resiliency. Fibers, plastics, and rubbers are not intrinsically different materials; they are only different combinations of these 3 phases. TTD: 12-47

Mixing. Design and utilization of internal fittings for mixing vessels. E. S. Bissell, H. C. Hesse & H. J. Everett, Mixing Equipment Co.; & J. H. Rushton, Illinois Inst. of Technology. *Chem. Eng. Progress 43,* 649-58 (Dec. 1947).

The design and installation of impellers, heating coils, baffles, draft tubes, and feed lines for mixers are discussed in detail.
LCL TTD: 12-47

Moisture in fibers. Calorimetric investigation of moisture in textile fibers. Frank C. Magne, H. J. Portas & Helmut Wakeham, Southern Regional Research Laboratory. *J. Am. Chem. Soc. 69,* 1896-1902 (Aug. 1947).

The use of the calorimetric method for the study of the nature of water in fibers is described in relation to cellulose, nylon, and glass fibers. TTD: 12-47

Naphthalene sulfonation. Theoretical discussion of positional sulfonation of naphthalene and some of its derivatives. II. Alpha- and beta-naphthols, alpha- and beta-naphthylamines, and their common monosulfonic acids. H. H. Hodgson & D. E. Hathway. *J. Soc. Dyers Colourists 63,* 109-12 (Apr. 1947).

Data on the sulfonation of the monohydroxy- and mono-

amino-derivatives of naphthalene and their common monosulfonic acids are interpreted on the basis of the Bamberger theory, modified, together with the resonance theory. TTD: 12-47

Naphthalenes. Theoretical discussion of further substitution in disubstituted naphthalenes. III. Further nitration of dinitronaphthalenes. IV. Comparison of sulfonation and nitration of polynitronaphthalenes, naphthalene polysulfonic acids, and naphthalene nitrosulfonic acids. H. H. Hodgson & E. R. Ward. *J. Soc. Dyers Colourists 63,* 141-4, 177-8 (May, June, 1947).

A discussion of the mono- and di-nitrations of dinitronaphthalenes on the basis of the Vesely and Jakes hypothesis, modified by the electronic and resonance theory. Sulfonation of naphthalene is much more complex than nitration. Data on the sulfonation and nitration reactions are given and the main complicating factors discussed. TTD: 12-47

Ultrasonics. Ultrasonics being used on textiles. Anon. *Textile World 97,* No. 7, 220 (July, 1947).

A brief note on the use of ultrasonics in textile research, particularly with reference to British investigations. TTD: 12-47

CHARACTERIZATION OF ORGANIC COMPOUNDS. F. Wild. Cambridge Univ. Press; 1947; 314 pp.; price 18s.

Reviewed in *J. Soc. Dyers Colourists 63,* 152 (May, 1947). TTD: 12-47

ELECTRON OPTICS AND ELECTRON MICROSCOPE. V. K. Zworykin, G. A. Morton, E. G. Ramberg, J. Hillier & A. W. Vance. J. Wiley & Sons, New York; Chapman & Hall, London, 1945; 777 pp.; price 60s.

Reviewed in *J. Soc. Dyers Colourists 63,* 238-9 (July, 1947). TTD: 12-47

REPORTS ON PROGRESS OF APPLIED CHEMISTRY. Vol. XXX. Society of Chemical Industry, London, 1945; 634 pp.; price 20s.

Reviewed in *J. Soc. Dyers Colourists 63,* 188 (June, 1947). TTD: 12-47

TEXBOOK OF ORGANIC CHEMISTRY. Julius Schmidt & H. Gordon Rule, 5th edition, revised and edited by Neil Campbell. Gurney & Jackson, London; 1947; 939 pp.; price 32s.

Reviewed in *J. Soc. Dyers Colourists 63,* 188 (June, 1947). TTD: 12-47

TEXTILE RESEARCH XII

British textile industry. British textile industries face challenging difficulties. Mary E. Poole. *Foreign Commerce Weekly 27,* No. 12, 3-5, 32-3 (June 28, 1947).

An overall picture of Britain's textile industry is presented with emphasis on the man power problem, and the cotton, wool, and rayon outlook. In contrast to low production in cotton and wool, the rayon-filament and staple-fiber output in 1946 showed a 30% increase over that in 1945. TTD: 12-47

British textile research. Textile research. Anon. *Foreign Commerce Weekly 26,* No. 2, 30 (Jan. 11, 1947).

The textile research institutions in Great Britain are described briefly. These include the Textile Institute, Wool Industries Research Association, British Cotton Industry Research Association, Cotton Board and Linen Industry Research Association. In addition to these, grants have been made to the University of Leeds and the Imperial College of Science and Technology of the University of London for rayon research. TTD: 12-47

Cellulose research. Cellulose research. Anon. *J. Sci. Ind. Research (India) 6,* 185-7 (May, 1947).

A brief review of papers discussed at an Indian conference on cellulose research (viscosity of viscose solutions, cellulose structure, cottonization of bast fibers, etc.). TTD: 12-47

Fabric research. Progress in fabric research. Anon. *Jute & Canvas Rev. 18,* No. 226, 18 (July, 1947).

A brief note on new research laboratories and training school (Forthergill & Harvey, Ltd.). TTD: 12-47

German textile research. Failure of German applied research in woolen and textile industry. Geo. V. Jean, James Lees & Sons Co. *Papers Am. Assn. Textile Technologists 2,* 75-9 (Mar.-May, 1947).

Applied textile research in Germany was limited largely to textile schools. The program was on too small a scale, and not on too practical a basis. Manufacturers regarded it as too academic. The shortage of raw materials led to the production of a number of specialized fabrics from rayon which required special treatment, but the production problems were never satisfactorily solved. Research was also dominated by the government. Germany's economy was controlled so that the essentials were within the reach of labor's earnings. Wages were low, especially in relation to the cost of raw materials. This made the development of labor-saving methods uneconomical. TTD: 12-47

Japan's rayon industry. Japan's rayon industry. Wilmer Weinstein. *Foreign Commerce Weekly 29,* No. 12, 3-5, 32-4 (Dec. 20, 1947).

Partial rehabilitation of Japan's rayon industry is planned under military authority. Statistics on prewar and present production are given. The industry's potential output is conditioned by reparation removals from the chemical industry. TTD: 12-47

Japan's wool industry. Japan's postwar wool industry under military authority. Wilmer Weinstein. *Foreign Commerce Weekly 29,* No. 5, 6-7, 32-3 (Nov. 1, 1947).

A plan for the revitalization of Japan's wool industry has been evolved by the occupation authorities. Foreign market prospects, recent records, mill and machinery requirements, and the availability of raw materials have been studied to determine what is necessary to bring the industry up to its 1930-34 level. TTD: 12-47

Knitting. United States knitting trails British, report discloses. Leonard Horn. *Textile World 96,* No. 11, 137, 200, 203-4 (Nov. 1946).

A comparison of knitting in the United States and Great Britain by the British Working Party delegation. TTD: 12-47

Textile developments. Modern fibers and modern processes. G. R. Perdue. *J. Textile Inst. 38,* P203-7 (June, 1947).

Developments in shrinkproofing and creaseproofiing fabrics are discussed, and the newer fibers (regenerated protein fibers, seaweed fibers, nylon, Vinyon, and Saran) are reviewed. TTD: 12-47

Textile exposition. Textile exposition fills Grand Central Palace. Anon. *Textile World 97,* No. 7, 147, 208 (July, 1947).

A brief note on the exposition, attended by 65,000 people. A few of the 420 exhibitors are listed. TTD: 12-47

Textile machines. Textile trends in Europe. René Bouvet, Am. Viscose Corp. *Papers Am. Assn. Textile Technologists 2,* 80-8 (Mar.-May, 1947).

A new type of card, combining workers with strippers and flats, is being tried in Switzerland. A wide variety of cotton-type spinners is being used in Europe for rayon. A high-speed section beam warper was developed in Italy. New looms have been developed in Switzerland. A pneumatic picker motion, adaptable to any automatic loom, has been introduced in England. A number of new fabrics are being developed, especially rayons. At present, the American textile industry enjoys a lead over that of Europe because of production methods, types of textile machinery, and the high quality of American raw materials. There is much textile research activity in Europe, however, and more research is needed in America to maintain this lead. TTD: 12-47

FACHWÖRTERBUCH FÜR DIE FARBSTOFFE UND TEXTILHILFSMITTEL VERBRAUCHENDEN INDUSTRIEN. (Technical Dictionary for Industries Using Dyes and Textile Aids). Compiled by I. G. Farbenindustrie, A-G (by authority of the Attorney General under License No. A-1232). Dictionaries, Inc., 501 Fifth Ave., New York 17, N. Y.; 489 pp.; 1947; price $12.50.

Reviewed in *Chem. Eng. News 26,* 203 (Jan. 19, 1948). TTD: 12-47

LA INDUSTRIA TEXTILE-ALGODÓN (Cotton Textile Industry). Jesús C. Hernandez. Ministry of Industry & Commerce, Dept. Spanish Gov't., Madrid; 1946.

Reviewed in *J. Textile Inst. 38,* P127 (Mar. 1947). TTD: 12-47

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